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REVISION OF THE AUSTRALIAN GENUS *MEONIS* CASTELNAU, 1867

(COLEOPTERA, CARABIDAE, PSYDRINAE)

INTRODUCTION

The present revision of the Australian carabid genus *Meonis* Castelnau is considered the final part of revisions of Psydrinae of the Australian-Papuan Region (see BAEHR 1992a, 1995, 1998, 2002, 2003, 2005, 2006b, BAEHR & LORENZ 1999). At least the Psydrinae of Queensland now are completely revised (see BAEHR 2003, 2005), whereas parts of the psydrine fauna of south-eastern Australia still need to be revised. In particular the southern species of *Mecyclothorax* Sharp are badly in need of revision, but this applies also to the genera *Theprisa* Moore, *Pterogmus* Sloane and *Teraphis* Castelnau of Tropopterini.

The systematics of Australian Psydrinae have been subject of several papers (MOORE 1963, MOORE *et al.* 1987, BAEHR 1999, 2003, 2005, 2006b) and at least the subdivision into tribes (or subtribes) seems to be widely accepted. The genus *Meonis* belongs to the tribe (or subtribe) Meonini (Meonina) which includes also the genus *Raphetis* Moore from eastern Queensland and the genus *Selenochilus* Chaudoir from New Zealand (MOORE 1963, MOORE *et al.* 1987, LAROCHELLE & LARIVIÈRE 2001, BAEHR 2003), and probably also the monospecific genus *Bembidiomorphum* Champion from Chile (LORENZ 1998, 2005). Meonini is a well founded tribe, the Australian members of which are easily distinguished by their extremely elongate mandibles and the elongate though highly convex hind body in combination with glabrous and very glossy surface.

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Meonis is distinguished from *Raphetis* Moore mainly by characters of the mouth parts (densely setose but not hooked lacinia and setose paraglossae in *Meonis*, spinose and terminally hooked lacinia and glabrous paraglossae in *Raphetis*), and by the not bordered base of the elytra and the very small scutellum, whereas in *Raphetis* the elytra are finely bordered and the scutellum is normal shaped (MOORE 1963).

In view of the sparse material available and of the present impossibility to do more than pure morphological examinations, readers probably would ask: why publishing this revision now and why not awaiting sufficient material, additional knowledge about ecology and ethology, and, in particular, ethanol preserved material for comparative molecular genetic examinations? Certainly, this question is justified, but apparently either specimens of *Meonis* are very rare or at least difficult to collect and hence, sampling of comprehensive material for molecular studies would be a tedious and difficult project, on the one hand; and, moreover, long experience clearly has demonstrated that a first impulse very commonly is needed altogether to stimulate work on a group, and that a first α -taxonomic revision using all types and all available material is basic to any future "metataxonomic" work using more intricate methods, and sometimes it simply stimulates further sampling efforts which would not have been done without such revision.

A second aim of such α -taxonomic revision is to facilitate or even altogether render possible pure identification of species. Unfortunately, in Australia knowledge of carabid beetles which belong to the most important target groups for faunistic and environmental research, is absolutely unsatisfactory with respect to their identification. Hence, pure keys for identification of species are greatly in need, but this means, on the other hand, that species identities have to be evaluated first by means of examination of all types and comparison with the available material, and by subsequent description and naming of additional not yet described taxa.

MATERIAL AND METHODS

A total of 138 specimens were examined in the course of this study. Material and types were borrowed from the following institutions and collectors: Australian Museum, Sydney (AMS), Austra-

lian National Insect Collection, Canberra (ANIC), Museo Civico di Storia Naturale G. Doria, Genova (MSNG), Museum of Victoria, Melbourne (NMV), Queensland Museum, Brisbane (QMB), South Australian Museum, Adelaide (SAMA), University of Queensland Insect Collection, Brisbane (UQIC), Western Australian Department of Agriculture, Perth (WADA), D. Wrase, Berlin (CWB), and from the collections made by the author and preserved in his working collection at Zoologische Staatssammlung, München (CBM).

Types of all described species were examined. For stability of nomenclature lectotypes were designated when necessary.

In the taxonomic section standard methods are used. The male and female genitalia were removed from specimens soaked for a night in a jar under wet atmosphere, then cleaned for a short while in hot KOH. Habitus photographs were obtained by a digital camera using ProgRes Capture Basic and AutoMontage and subsequently were worked with Corel Photo Paint 11.

Data of all examined material are given in full length and the exact labelling was used, including all ciphers, notes of determinators and curators, and printed labels. Original spelling of date of collecting, especially of the month (arabics, roman, abbreviations), has also been used. A / with a blank before and after it denotes a new label, two blanks mark a new line on the same label. Earlier determinations were recorded with quotation of the determiner. Colour of labels are added in parentheses.

Measurements were taken using a stereo microscope with an ocular micrometer. Length has been measured from apex of labrum to apex of elytra. Lengths, therefore, may differ substantially from those recorded by other authors if these have included the mandibles in their measurements. Length of pronotum was measured along midline, width of base at the position of the posterior lateral setae. At least 6 specimens of each taxon were measured when available, otherwise all specimens were measured. Attention was paid to choose specimens of both sexes and of different size and shape. In strikingly variable taxa or in species with wide range, even more specimens were measured to get an impression of the complete range of size and shape of the respective taxon.

Because colour and certain characters of the external morphology are extremely similar in all species, only those characters that differ

in some species are mentioned in the descriptions. Hence, before trying identification, the genus or subgenus diagnoses should be read.

ABBREVIATIONS

- NP - National Park
- NSW - New South Wales
- QLD - Queensland
- ce. - central eastern
- ne. - north-eastern
- se. - south-eastern
- env. - environs

DISTINGUISHING CHARACTERS

Species of *Meonis* are very similar in appearance and external morphological characters. In most species the male genitalia are generally similar in shape and structure, but usually they exhibit minor though characteristic differences. Thus, examination of the male genitalia is mandatory for the distinction of species. An additional useful set of characters is the number and development of the impressed elytral striae that can vary in numbers from 2-3 to 5, and from fully developed to anteriorly and/or posteriorly abbreviated. But traces of additional striae are sometimes visible. To a lesser extent body size, shape of pronotum and shape of elytra are of some value, but the species of this genus possess few useful characters in their external morphology, because the microstructure of their surface generally is little developed and usually quite similar, and they do not exhibit striking differences in shape and structure of head, mouthparts, and legs.

Although distribution should not be used as a *prima facie* determining character, it can help sorting species, because due to absence of flight ability and common occurrence in montane habitats most taxa apparently possess well defined ranges which mostly are restricted to certain distinct mountain blocks that are separated from other blocks either by river valleys or stretches of open forest and woodland.

TAXONOMIC PRINCIPLES

Taxonomic principles are basically the same as in my monographs of the Australian Pseudomorphinae (BAEHR 1992b, 1997) and Amblytelini (BAEHR 2005), and also as used in the revision of the *Anomotarus*-complex (BAEHR 2004, 2006a). As mentioned above, most taxa of *Meonis* are quite similar in external appearance and also in genital morphology. However, due to the general inability for flight, a number of slightly different taxa have evolved that occupy different mountains tops or tablelands, apparently without being able to interbreed. Even when this taxonomic radiation probably is due to apparently rather recent evolution, considerable taxonomic diversification occurred which has led to clusters of very closely related taxa. For easier use and also for heuristic purposes those populations that still are very similar and, moreover, occur in neighbouring areas, are described as subspecies, whereas morphologically more divergent taxa are described as species. This procedure might be criticised from two points of view: 1. Why describing subspecies in view of the known difficulties in recognizing subspecies from morphological evidence alone? 2. Why giving taxa exhibiting but minor differences a nomenclatorial effective rank?

1. Certainly, description of subspecies is a difficult task and some of the provisional taxonomic decisions done in the present paper might have to be revised in future when additional records or additional evidence will be available. This could be done, for example, by application of molecular methods. However, in *Meonis* material at present is very scarce and fresh material of all or even the majority of species certainly would be difficult to gather. Hence, some taxonomic decisions are rather preliminary and more well-founded decisions must await gathering of freshly sampled material.

However, again I want to stress herein that, for taxonomic use, the terms 'species' and 'subspecies' have only a heuristic value. Certainly I do not want to reject that these taxa are existing entities of nature that are defined by the biological species concept. But any description or identification of taxa by the taxonomist can be at best a scientific hypothesis, and, at least as long we do not have observed the actual gene flow within and between populations, we only are dealing with theoretical constructs ('morphotaxa') that not implicitly must be congruent with the natural entities. Therefore, we cannot

be sure of what we are actually describing when describing 'species' or 'subspecies'. And hence, any principal disagreement about 'species', even more about 'subspecies', between taxonomists, seems to me to be merely a disagreement about what different taxonomists think that 'species' and 'subspecies' are, but not about the actually existing entities. Or, to say it a bit more accentuated: it is a disagreement between the methods of reasoning of different taxonomists.

In this connection I want to remember that the mentioned problems in differentiation of taxa apply as well to taxonomy that uses molecular methods rather than data gathered from external or genital morphology, because pure percentage of differences in gene loci, in the same way as percentage of similarity of morphological characters, is by no means an absolute measure of relationship.

2. In some species complexes the distinction of taxa probably may appear rather artificial and perhaps readers do not agree with some of the taxonomic decisions made herein. It was mainly for heuristic reasons that I choose the attitude of a 'splitter', in particular to give users or later revisers the opportunity to trace without difficulties aberrant specimens or populations that likely would get lost in the material, when they would be regarded only as 'variations'. Certainly I feel that in some of these 'subspecies' morphological taxonomy is likely to have reached its limits and should be supplemented with other methods.

WAY OF LIFE

Very little is known about habits and life histories of any species of the genus *Meonis*. It is believed that most species live on the ground in rather dense forest, from rain forest to wet sclerophyll forest, and certainly many occur at high altitudes. All are flightless and are most commonly sampled from under logs, stones, and piles of leaves on the forest floor. Since the material supply is very scarce, specimens either seem to be very rare, or they are rarely collected, because we do not yet sufficiently know their ecological requirements to observe them in their peculiar niches. The specimens that I collected, either were from under logs in rain forest, or had been sampled in pitfall traps exposed on the forest floor, but it may be well possible that they live rather in cracks in the bark or even in

dead timber, than simply on the ground of the forest floor. A similar way of live has been observed by G. MONTEITH in the related northern genus *Raphetis* Moore (BAEHR 2003).

Nothing has been recorded about nutrition, although the cychroid body shape with smooth and narrow fore body and very elongate, pincer-like mandibles suggests either a diet of shelled snails or a method of picking insects, worms etc. from deep cracks in the bark of trunks and logs.

From my knowledge nothing is recorded about courtship and propagation and larvae are so far unknown.

Genus *Meonis* Castelnau

CASTELNAU, 1867: 69; 1868: 155; SLOANE 1898: 470; 1900: 562; 1911: 825; 1915: 448; 1916: 201; CSIKI 1929: 484; STRANEO 1941: 86; MOORE 1963: 288; MOORE *et al.* 1987: 152; LORENZ 1998: 224; 2005: 245; BAEHR 2003: 94.

Type species: *Meonis niger* Castelnau, 1867, by subsequent designation by MOORE (1963: 288).

Note. CSIKI (1929) enumerated 8 species, giving *M. ater* Sloane, 1910 (wrong year, should read 1911!) as the original name of *M. amplicollis* Sloane, 1915, which name after CSIKI had to be replaced because it would be a younger homonym of *M. ater* Castelnau, 1867. SLOANE, however, never described a *M. ater* and in the paper mentioned by CSIKI, he wrote only about *M. ater* Castelnau. Hence, CSIKI simply confused the author's names. Of the 8 valid species enumerated by CSIKI, *M. ovicollis* Macleay actually belongs to the pterostichine genus *Darodilia* Castelnau which much resembles *Meonis* in external appearance.

Of the 7 remaining species STRANEO (1941) synonymized *M. amplicollis* Sloane, 1915 with *M. ater* Castelnau, 1867, and MOORE (MOORE *et al.* 1987) synonymized *M. minor* Sloane, 1916 with *M. semistriatus* Sloane, 1916. Hence, at the present state of knowledge, five valid species are acknowledged.

On one identification label, however, MOORE in the year 1999 identified specimens of *M. minor* as *M. semistriatus minor*, thus obviously giving *M. minor* again the status of a subspecies. Appar-

ently he then recognized sufficient differences between both taxa to divide them again into subspecies. From my knowledge, however, this decision was never published. It also would contradict our subspecies concept that does not allow the occurrence of two subspecies of the same species at exactly the same locality.

D i a g n o s i s . Genus of the subfamily Psydrinae and tribe Meonini which includes also the North Queensland genus *Raphetis* Moore, the genus *Selenochilus* Chaudoir from New Zealand (MOORE 1963, MOORE *et al.* 1987, LAROCHELLE & LARIVIÈRE 2001, BAEHR 2003), and probably also the South American *Bembidiomorphum* Champion. Characterized by the following character states: colour, including legs, uniformly glossy black, only antenna sometimes reddish or piceous, but then 1st antennomere usually darker than the rest; surface smooth; eyes small but laterally much protruding; two supraorbital setae present, situated close together; frontal sulci deep, sinuate; clypeus bisetose; labrum anteriorly deeply excised in middle, 6-setose; mandibles very elongate, pincer-like, bearing a seta in the scrobe in front of middle, without any molar teeth; mentum bisetose, with shallow excision and a very shallow tooth; submentum divided from mentum by a deep suture, bisetose; glossa wide, triagonal, bisetose; paraglossae hyaline, very narrow, far surpassing glossa; lacinia very elongate, with a double row of dense, curved setae, without terminal hook; galea very narrow and elongate; 1st-3rd antennomeres impilose, apical antennomeres pilose throughout and with distinct microsculpture; pronotum more or less cordate; apex and base not bordered; marginal border very narrow; median line deep, no transverse sulci present; one elongate, furrow-like basal groove on either side present; 1-3 anterior marginal setae present, situated in anterior half; posterior marginal seta situated at basal angle; elytra elongate, more or less ovoid; humerus angulate, basal margin short, at most attaining 5th stria; scutellum very small; scutellar pore situated at 2nd stria, usually no scutellar stria present; surface of elytra with 2-3 to 5 impressed striae, but outer striae sometimes less distinct than the 2 or 3 inner ones; sometimes traces of additional striae visible; striae smooth or finely crenulated; dorsal pores and setae absent; 13-14 marginal pores and setae present; at apex of 5th stria 2 pores and setae present; all setae fairly elongate; prosternal process setulose or not; metepisternum short, as wide as long; abdominal sterna bisetose; terminal abdominal sternum quad-

risetose in both sexes, rarely 6-setose; upper surface glossy; surface of head without any microreticulation; surface of pronotum with extremely fine, transverse meshes and usually with very fine and sparse punctuation; surface of elytra with extremely fine and superficial microreticulation, usually consisting of very transverse meshes, rarely of transverse lines; legs moderately elongate; 5th tarsomere setose underneath; 1st-3rd tarsomeres of protarsus in males slightly widened and biserially squamose; aedeagus markedly sclerotized and with some sclerotized pieces within the internal sac; shape and structure of aedeagus and parameres very different according to the subgenus; female genitalia similar in all species, stylomere 1 without setae at apical rim, stylomere 2 with two lateral-ventral and one medio-dorsal ensiform setae and a single very short nematiform seta arising medially from a large groove.

S y s t e m a t i c s . Due to striking differences in shape and structure of the aedeagus, but also to some differences in certain aspects of external morphology, two subgenera are differentiated, of which the nominate subgenus covers the bulk of the species, whereas the new subgenus *Meonidius* so far includes a single species with two subspecies.

D i s t r i b u t i o n (Figs 46-51). Central eastern New South Wales to south-eastern Queensland, from slightly north of Sydney to about Gayndah in Queensland.

KEY TO THE SPECIES OF THE GENUS *MEONIS* CASTELNAU

- 1 Pronotum little cordiform, with wide base, ratio widest diameter/base < 1.25 (Fig. 33); humerus markedly angulate, basal margin rather elongate (Fig. 25); prosternal process setose; microreticulation on elytra barely recognizable, if present at all, consisting of finest transverse lines; aedeagus with uncinate apex; orificium almost symmetric on upper surface; internal sac with two remarkably dentate sclerites within; left paramere short and wide, with oblique apex, asetose (Figs 17, 18); three inner striae impressed and complete, 4th stria complete or almost so, but not impressed. Lamington Plateau, se. QLD, Mt. Warning, ne. NSW. Subgenus *Meonidius* n. subgen. 2

- 1' Pronotum rather cordiform, usually with much narrower base, ratio widest diameter/base > 1.3, usually considerably more (Figs 27-32, 34, 35); humerus less angulate, basal margin short (Fig. 24); prosternal process asetose; microreticulation on elytra very fine though well recognizable under high magnification, consisting of more or less transverse meshes; aedeagus without uncinate apex; orificium completely situated on right side; internal sac with one elongate sclerite and another coiled, but not dentate sclerite within; left paramere much longer, usually with tapering apex, setose (Figs 1-16); striation of elytra varied. Subgenus *Meonis* s. str... 3
- 2 Generally larger, body length 8.6-10.4 mm; pronotum wider, ratio length/width 0.91-0.97; elytra relatively shorter and wider, laterally more convex, ratio length/width 1.49-1.57; upper-posterior denticulate sclerite of internal sac wider but less deep; left paramere shorter and with wider apex (Fig. 17). Lamington Plateau, se. QLD...
...*uncinatus uncinatus* n. sp.
- 2' Smaller, body length 7.7 mm; pronotum narrower, ratio length/width 1.0; elytra relatively longer and narrower, laterally less convex, ratio length/width 1.6; upper-posterior denticulate sclerite of internal sac narrower and deeper; left paramere longer and with narrower apex (Fig. 18). Mt. Warning, ne. NSW ...*uncinatus frater* n. ssp.
- 3 Elytra with 5 deeply impressed and complete striae (Figs 36, 37); pronotum in anterior half with 2-3 marginal setae (Fig. 26); aedeagus sinuate on upper surface near apex, with evenly convex or straight apex, lower surface more suddenly bent, right paramere sinuate (Figs 1-5)... 4
- 3' Elytra with less than 5 deeply impressed striae, or 5th stria not complete (Figs 38-44); pronotum in anterior half with a single marginal seta (Figs 27-32); aedeagus not sinuate on upper surface near apex, with oblique, sometimes even slightly knobbed apex, lower surface evenly concave, right paramere straight (Figs 6-16) ... 8

- 4 Body length usually < 10 mm; elytra dorsally more convex, short (ratio l/w 1.44-1.49) but rather narrow in comparison to pronotum (width ratio elytra/pronotum 1.26-1.32); almost always with traces of 6th and sometimes even 7th stria well visible; aedeagus with convex apex (Fig. 3). Tweed River area and Border Range, extreme ne. NSW, adjacent se. QLD *cordicollis* n. sp.
- 4' Body length > 10 mm, usually > 11 mm; elytra dorsally more depressed, commonly longer, when ratio $l/w < 1.49$, either body length > 12 mm, or elytra wider in comparison to pronotum (width ratio elytra/pronotum > 1.37); rarely traces of 6th stria visible; aedeagus varied (Figs 1, 2, 4, 5). 5
- 5 Aedeagus less suddenly bent on lower surface, with clearly convex apex, left paramere with 4 or more apical setae (Figs 1, 2); body length usually < 12 mm 6
- 5' Aedeagus suddenly bent on lower surface, with rather straight apex, left paramere with only 2 apical setae (Figs 4, 5); body length usually > 12 mm 7
- 6 Elytra shorter and wider, markedly oval-shaped, ratio l/w 1.46 (Fig. 36); left paramere with obtusely rounded apex (Fig. 1). Clarence River area, extreme ne. NSW
. *niger* Castelnau
- 6' Elytra longer and narrower, less oval-shaped, ratio $l/w > 1.49$ (Fig. 37); left paramere with angulate, somewhat tapering apex (Fig. 2). Tweed River area, extreme ne. NSW, se. QLD including Lamington Plateau and Main Range
. *quinqesulcatus* n. sp.
- 7 Pronotum longer and narrower, ratio l/w 1.0, with comparatively narrow base, ratio diameter/base 1.5; basal grooves of pronotum distinctly curved (Fig. 35); lower surface of aedeagus very angulate, left paramere with acute, evenly tapering apex, right paramere little sinuate (Fig. 5). Toowoomba env., se. QLD *angustior* n. sp.
- 7' Pronotum shorter and wider, ratio $l/w < 0.96$ with wider base, ratio diameter/base < 1.41 ; basal grooves of pronotum little curved (Fig. 34); lower surface of aedeagus less

- angulate, left paramere with knobbed apex, right paramere markedly sinuate (Fig. 4). Clarence River area, extreme ne. NSW.....*subconvexus* n. sp.
- 8 5th stria impressed from a short distance behind base till apex; aedeagus unknown. ne. NSW*interruptus* n. sp.
- 8' 5th stria, if present, impressed only near apex 9
- 9 5th stria present at apex 10
- 9' At most 4 striae present, even at apex no trace of 5th stria present 15
- 10 Large species, body length > 17.5 mm; left paramere elongate and depressed, almost parallel-sided (Fig. 9). ne. NSW.....*magnus* n. sp.
- 10' Smaller species, body length < 15.5 mm; left paramere less elongate and depressed, not at all parallel-sided (Figs 6-8, 10). 11
- 11 Pronotum shorter, as wide as long or even slightly wider, ratio l/w 0.93-1.01 (Figs 29, 30); aedeagus with almost transverse apex and with lower surface regularly concave and right paramere short and wide and left paramere with short, obtuse apex (Fig. 8). Blue Mts., ce. NSW..... 12
- 11' Pronotum longer, clearly longer than wide, ratio l/w 1.03-1.09 (Figs 27, 28); not all these characters present together (Figs 6, 7, 10). Distribution different..... 13
- 12 Larger subspecies, length 11.7-13.8 mm; pronotum dorsally more convex with shorter basal grooves (Fig. 29); elytra laterally less convex, barely oviform (Fig. 39); aedeagus unknown. Central Blue Mts. from Springwood to Lithgow env. *convexus convexus* Sloane
- 12' Smaller subspecies, length 9.7 mm; pronotum dorsally more depressed with longer basal grooves (Fig. 30); elytra laterally more convex, distinctly oviform (Fig. 40); aedeagus see fig. 8. Mt. Coricudgy, northern Blue Mts.....
..... *convexus coricudgyi* n. ssp.
- 13 Elytra longer, ratio l/w 1.69, wider at humeri, laterally

- almost parallel, not oviform (Fig. 41); aedeagus with almost transverse apex (Fig. 10). East of Barrington Tops, ce. NSW. *carteri* n. sp.
- 13' Elytra shorter, ratio $l/w < 1.63$, narrower at humeri, laterally almost evenly convex, distinctly oviform (Fig. 38); aedeagus with distinctly produced apex (Figs 6, 7). Dorrigo env., ne. NSW 14
- 14 Elytra shorter and wider, ratio $l/w < 1.39-1.58$; 4th stria impressed in full length; pronotum wider, ratio $l/w 1.03-1.05$, basal angles distinctly divergent (Fig. 27); aedeagus shorter and stouter, apex less produced, lower surface distinctly bisinuate (Fig. 6). Dorrigo env., ne. NSW
. *angusticollis* Sloane
- 14' Elytra longer and narrower, ratio $l/w 1.63$; 4th stria not impressed in basal fifth; pronotum narrower, ratio $l/w 1.09$, basal angles straight (Fig. 28); aedeagus longer and narrower, lower part of apex distinctly produced, lower surface almost regularly concave (Fig. 7). Styx River NP west of New England NP, ne. NSW. *styx* n. sp
- 15 4th stria complete and well impressed over almost its whole length; pronotum remarkably cordiform, with lateral margin suddenly excised near base (Fig. 31); aedeagus shorter and stouter with more oblique apex, right paramere with tapering apex (Figs 11-14). Extreme ne. NSW, se. QLD 16
- 15' 4th stria complete or not, but not impressed over its whole length; pronotum far less cordiform, with lateral margin more gently excised near base (Fig. 32); aedeagus longer and narrower with less oblique apex, right paramere with more obtuse apex (Figs 15, 16). Barrington Tops, ce. NSW. 21
- 16 Generally larger species, length > 12.1 mm and impressed part of 4th stria clearly ending in front of meeting point of 2nd and 3rd striae (Fig. 47); aedeagus unknown. Tweed River area, ne. NSW, Lamington Plateau, adjacent se. QLD
. *amplicollis* Sloane
- 16' Generally smaller species, length < 12.2 mm, usually

- smaller; 4th stria either impressed on apical declivity, or impressed part of 4th stria at least reaching or surpassing meeting point of 2nd and 3rd striae, commonly uniting with these (Fig. 46); aedeagus with slightly knobbed apex; both parameres deeply sinuate at upper margin (Figs 11-14). Clarence River area, ne. NSW, se. QLD from Brisbane to Bunya Mts. and Gayndah 17
- 17 Slightly smaller subspecies, length < 11.0 mm; aedeagus slightly narrower and less compact, right paramere longer, left paramere with acute, more or less tapering apex (Figs 11-13). Clarence River area, ne. NSW, Bunya Mts., Ravensbourne NP on Main Range, and Gayndah env., se. QLD.. 18
- 17' Slightly larger subspecies, length > 11.5 mm; aedeagus slightly shorter and stouter, right paramere shorter, left paramere rounded at apex (Fig. 14). Brisbane env.
..... *ater gloriosus* n. ssp.
- 18 Pronotum longer than wide, ratio length/width > 1.0; aedeagus unknown. Gayndah env.....*ater macleayi* n. ssp.
- 18' Pronotum clearly wider than long, ratio length/width < 0.97; aedeagus see figs 11-13. Clarence River area, ne. NSW, Bunya Mts. and Ravensbourne NP on Main Range, se. QLD 19
- 19 Elytra shorter and wider, laterally distinctly convex (Fig. 42), ratio length/width < 1.55, elytra wider in comparison to pronotum, ratio width of elytra/width of pronotum > 1.31. Clarence River area, ne. NSW, Bunya Mts., se. QLD..... 20
- 19' Elytra longer and narrower, laterally almost straight (Fig. 43), ratio length/width > 1.65, narrower in comparison to pronotum, ratio width of elytra/width of pronotum 1.26. Ravensbourne NP on Main Range *ater longipennis* n. ssp.
- 20 Pronotum longer, ratio l/w > 0.96; left paramere with less tapering apex (Fig. 11). Clarence River area, ne. NSW ...
.....*ater ater* Castelnau
- 20' Pronotum shorter, ratio l/w < 0.94; left paramere with

more tapering apex (Fig. 12). Bunya Mts., se. QLD.

. *ater bunyanus* n. ssp.

21 Larger species, body length > 11.3 mm, usually larger; three inner striae well impressed; antenna longer, median antennomeres almost 3 x as long as wide; left paramere with more setae at apex (Fig. 15) *semistriatus* Sloane

21' Smaller species, body length < 9.0 mm; inner striae more superficial; antenna shorter, median antennomeres < 2 x as long as wide; left paramere with fewer setae at apex (Fig. 16). *minor* Sloane

Subgenus *Meonis* s. str.

Type Species: *Meonis niger* Castelnau, 1867, by present designation.

Diagnosis. Similar to genus diagnosis, but maxillary and labial palpi in males widened towards apex and obliquely transverse; pronotum always rather cordiform; elytra with moderately angulate humeri and short basal margin; microreticulation of elytra fine though distinct, consisting of more or less transverse meshes; aedeagus with more or less straight, not uncinate apex; orificium completely situated on right side; internal sac with a complexly shaped sclerite in middle and an elongate, curved rod, but no sclerite denticulate; left paramere elongate, usually with tapering apex, always setose at apex; right paramere elongate, with setose apex and a fringe of elongate setae along lower margin; female stylomeres as in genus diagnosis.

Distribution (Figs 48-53). 15 species and additional 5 subspecies distributed from Blue Mountains near Sydney in the south to about Gayndah in south-eastern Queensland, in the north.

Meonis niger Castelnau (figs 1, 36, 48)

CASTELNAU, 1867: 70; 1868: 156; SLOANE 1911: 826; 1915: 449; 1916: 201; CSIKI 1929: 484; STRANEO 1941: 87; MOORE 1963: 288; MOORE *et al.* 1987: 152; LORENZ 1998: 224; 2005: 245; BAEHR 2003: 94.

Type specimens. Lectotype: ♂, Clarence River Coll. Castelnau / Typus (red margin) / *Meonis niger* Cast. / *Meonis niger* Cast / LECTOTYPE *Meonis niger* Cast. des. Straneo, 1941 (red) (MSNG).

Note. A second specimen from the Castelnau Collection which bears only the locality label "Australia" but a label "det. Castelnau" probably does not belong to the type series and was not designated paralectotype by Straneo. Moreover, it belongs to another, related but new species.

Diagnosis. Rather small species, characterized by 5-striate elytra and presence of additional anterior marginal setae on pronotum; distinguished from most closely related *M. quinesulcatus* n. sp. by shorter, more oval-shaped elytra and the obtuse apex of left paramere.

Description

Measurements. Length: 10.7-12.1 mm; width: 4.1-4.8 mm. **Ratios.** Length/width of pronotum: 0.95-0.98; widest diameter/width of base of pronotum: 1.43; length/width of elytra: 1.46; width of elytra/pronotum: 1.41-1.43.

Colouration. Black, antennae except for basal antennomere, mouth parts, and tarsi reddish-piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, straight. Antenna elongate, median antennomeres almost 3 x as long as wide.

Pronotum. Cordiform, slightly shorter than wide, lateral margins evenly convex to near base, shortly sinuate in front of base, but basal angles rectangular, laterally not produced. 2-3 anterior marginal setae present. Surface moderately convex. Basal grooves elongate, almost straight.

Elytra (Fig. 36). Rather short and wide, markedly oviform and incurved towards base. Humeral angle distinct, almost rectangular. Disk 5-striate, striae complete, deeply impressed, almost impunctate. Inner five intervals convex. External striae barely indicated. Surface with extremely fine and superficial, very transverse meshes.

Lower surface. Of ordinary shape. Terminal abdominal sternite in male 4-setose.

Legs. Of ordinary shape.

♂ genitalia (Fig. 1). Genital ring compact, oval shaped, almost symmetric; lateral arms very delicate, probably due to rather fresh hatching of the specimen. Aedeagus elongate; laterally depressed, rather sinuate; lower surface moderately sinuate-angulate; widened to the oblique-convex apex; orificium elongate, situated almost completely on right side; apical margin incurved into internal sac at left side, forming a sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres elongate, more than half as long as aedeagus; left paramere much wider than the right one, with obtuse, even slightly transversely cut apex, with 3 elongate and a few short setae at apex; right paramere narrow, rather straight, with 2 elongate and a few shorter setae at apex and with a very dense fringe of numerous elongate setae all along the lower margin.

♀ genitalia. Unknown.

Variation. Due to very sparse material, little variation noted.

Collecting circumstances. Unknown.

Distribution (Fig. 48). Clarence River area, extreme northern New South Wales.

Relationships. The species belongs to a relatively distinct species-group which includes *M. quinquesusulcatus* n. sp., *M. cordicollis* n. sp., *M. subconvexus* n. sp., and *M. angustior* n. sp., and according to shape of aedeagus probably is nearest related to *M. quinquesusulcatus* and *M. cordicollis*.

Additional examined material (1 ex.). NSW: 1 ♂, N. S. Wales / 480 *M. niger* Cast. iden. by Sloane 5-06 (NMV).

***Meonis quinquesusulcatus* n. sp.**

(figs 2, 21, 24, 26, 37, 48)

Type specimens. Holotype: ♂, Mt. Superbus Summit, SEQ. 1330m 12 Mar-13 Jun 1990 T. Churchill & R. Raven Pitfalls Site 5 (QMT123812). – Paratypes: 1 ♂, Mt. Mistake Plateau, via Goomburra SEQld 21-22 Nov 1987 G. B. Monteith RF (QMB); 1 ♂, 1 ♀, Cunningham's Gap, 700-900m, s.Qld. Austral. 14.12.81-25.1.82, M. Baehr (CBM); 1 ♂, Nothofagus Mtn., via Woodenbong, NSW 4-6 Feb., 1982, 1100-1280m G. Monteith & D. Yeates

(QMB); 1 ♂, N. S. Wales / 420 *M. niger* ? J. Kershaw / Comp^d with spec. in Howitt coll 21.11.21 (ANIC); 1 ♂, 28.13S 153.06 E QLD Lamington NP 4 km NW O'Reillys, Duck Creek Road, 820m, 12 April 1993 D. S. Chandler / Berlesate ANIC 1501 subtr. closed forest rotten wood litter (ANIC); 1 ♀, Australia, QLD. Binna Burra, 24/25. xii.2003 Lgt. R. Novák (CBM); 1 ♀, O'Reilly's, Lamington Plateau, 900-1100m, s.Qld. Australien 10.12.81-2.2.1982, M. Baehr (CBM); 2 ♀♀, National Pk., Q. H. Hacker, Dec., 1919 / *Meonis* sp. Id. by H. J. Carter (ANIC, QMB); 2 ♀♀, Bald Mtn. area, 3-4,000' via Emu Vale, S. E. Qld. 27-31.i.1972 G.B. Monteith (QMB); 1 ♀, Bald Mountain via Emu Vale, Qld. 28°14'S, 152°254'E 26-30 Jan 1973 G. B. Monteith (UQIC Reg. #90391); 1 ♀, Lam. Nat. Pk. Qld. 11-17 Feb., 1963. G. Monteith (UQIC Reg. #90229).

D i a g n o s i s . Rather small species, characterized by 5-striate elytra and presence of additional anterior marginal setae on pronotum; distinguished from most closely related *M. niger* Castelnau by longer, less oval-shaped elytra and the angulate, somewhat tapering apex of left paramere.

D e s c r i p t i o n

Measurements. Length: 10.0-11.9 mm; width: 3.65-4.5 mm. **Ratios.** Length/width of pronotum: 0.91-0.97; widest diameter/width of base of pronotum: 1.35-1.43; length/width of elytra: 1.49-1.56; width of elytra/pronotum: 1.27-1.35.

Colouration. Black, antennae except for basal antennomere, mouth parts, and tarsi reddish-piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, straight. Antenna elongate, median antennomeres almost 3 x as long as wide.

Pronotum (Figs 21, 26). Cordiform, shorter than wide, lateral margins evenly convex to near base, shortly sinuate in front of base, basal angles rectangular to slightly acute, laterally slightly produced. 2-3 anterior marginal setae present. Surface moderately convex. Basal grooves elongate, very gently sinuate.

Elytra (Figs 21, 24, 37). Fairly elongate, oviform though relatively narrow, moderately incurved towards base. Humeral angle distinct, almost rectangular. Disk 5-striate, striae complete, deeply impressed, almost impunctate. Inner five intervals convex. External striae barely indicated, but sometimes more or less distinct traces

of 6th stria visible. Surface with extremely fine and superficial, very transverse meshes.

Lower surface. Of ordinary shape. Terminal abdominal sternite 4-setose in both sexes.

Legs. Of ordinary shape.

♂ genitalia (Fig. 2). Genital ring compact, oval shaped, almost symmetric. Aedeagus elongate; laterally depressed, rather sinuate; lower surface moderately sinuate-angulate; widened to the obliquely convex apex; orificium elongate, situated almost completely on right side; apical margin incurved into internal sac at left side, forming a sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres elongate, more than half as long as aedeagus; left paramere much wider than the right one, with acute, tapering apex, with 1-4 elongate and usually a few short setae at apex; right paramere narrow, rather straight, with 2 elongate and a few shorter setae at apex and with a very dense fringe of numerous elongate setae all along the lower margin.

♀ genitalia. Similar to those of *M. cordicollis* n. sp.

Variation. Some variation noted in size and relative shape of pronotum and elytra which can be more or less ovoid, but always less so than in *M. niger* Castelnau.

Collecting circumstances. Most labelled specimens collected in montane rain forest, partly in pitfall traps, partly by Berlese extraction of ground litter.

Distribution (Fig. 48). Northernmost New South Wales, Border Range and Lamington Plateau in south-eastern Queensland.

Etymology. The name refers to the deeply 5-striate elytra.

Relationships. According to shape of aedeagus within group probably nearest related to *M. niger* Castelnau and *M. cordicollis* n. sp.

***Meonis cordicollis* n. sp.** (figs 3, 19, 49)

Type specimens. Holotype: ♂, 01BG NSW: Bennetts Rd, approx. 10 km NW of Urbenville, 28:25S, 152:27E Beaury SF

1/21 890m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray G.Cassis / *Meonis niger* Cast. Det.B.P. Moore 1999 / K147999 (AMS). – Paratypes: 2 ♀♀, same data / K147998, K148002 (AMS, CBM); 1 ♀, 01AR NSW: 1.9 km along Tucker Box Rd from Tooloom Rest Area; 28:28S,152:24E Beaury SF 51 760m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray G. Cassis / *Meonis niger* Cast. Det.B.P. Moore 1999 / K148000 (AMS); 1 ♂, 40BR NSW: Tweed Range Rd, 2.0 km SSDW of join with Bridle Ck. Rd. 28:23S,153:03E Border Ranges NP 780m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray G. Cassis / *Meonis niger* Cast. Det.B.P. Moore 1999 / K147997 (AMS); 1 ♂, 04BM NSW: Tunners Rd. 28:37S,152:42E Richmond Range SF 19/48 560m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray G. Cassis / *Meonis niger* Cast. Det.B.P. Moore 1999 / K148001 (AMS); 1 ♀, AUST: SEQ: 28°19'S, 152°51'E Lavers Plateau, 720m 29 Feb 1992-11 Apr 1992 D. J. Cook, RF Intercept (QMB); 1 ♀, 28.29S 152.23E Beaury S.F. NSW c.700m 15-17 Feb. 1983 T. Weir & A. Calder / under log (ANIC); 1 ♂, Mt. Clunie, 3-4000' NSW/Qld border, 16.xii.1972 G. B. Monteith (QMB); 1 ♂, SEQ: 28°02'S x 152°23'E Bare Rock, 2 km N of Mt. Cordeaux, 1100m 20 Feb 1994-4 Apr 1994 G. Monteith. Pitfalls (QMB); 1 ♂, NSWales / 436 *M. niger* Cast. dwarf spec iden by Sloane 5-06 (NMV); 1 ♀, Australia Coll. Castelnau / *Meonis niger* Cast. det. Castelnau (MSNG).

D i a g n o s i s . Small species, characterized by 5-striate elytra and presence of additional anterior marginal setae on pronotum; distinguished from most closely related *M. niger* Castelnau and *M. quinquesusulcatus* n. sp. by lesser size and more cordiform pronotum; further on from *M. niger* by narrower elytra compared with pronotum, and by the angulate, somewhat tapering apex of left paramere, and from *M. quinquesusulcatus* by shorter elytra.

D e s c r i p t i o n

Measurements. Length: 8.0-10.4 mm; width: 3.1-3.9 mm. **Ratios.** Length/width of pronotum: 0.93-0.99; widest diameter/width of base of pronotum: 1.34-1.43; length/width of elytra: 1.44-1.49; width of elytra/pronotum: 1.26-1.32.

Colouration. Black, antennae except for basal antennomere, mouth parts, and tarsi reddish-piceous.

Head. Of ordinary size and shape. Frontal furrows oblique,

straight. Antenna fairly elongate, median antennomeres c. 2.5 x as long as wide.

Pronotum. Markedly cordiform, shorter than wide, lateral margins evenly convex to near base, shortly sinuate in front of base, basal angles slightly acute, laterally slightly produced. 2-3 anterior marginal setae present. Surface markedly convex. Basal grooves elongate, gently sinuate.

Elytra. Rather short and wide, oviform, moderately incurved towards base. Humeral angle distinct, but wider than rectangular. Disk 5-striate, striae complete, deeply impressed, almost impunctate. Inner five intervals convex. Usually traces of external striae indicated as rows of punctures. Surface with extremely fine and superficial, very transverse meshes.

Lower surface. Of ordinary shape. Terminal abdominal sternite 4-setose in both sexes.

Legs. Of ordinary shape.

♂ genitalia (Fig. 3). Genital ring compact, oval shaped, almost symmetric, rather narrow. Aedeagus elongate; laterally depressed, rather sinuate; lower surface moderately sinuate-angulate; widened to the oblique and slightly convex apex; orificium elongate, situated almost completely on right side; apical margin incurved into internal sac at left side, forming a sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres elongate, slightly more than half as long as aedeagus; left paramere much wider than the right one, with acute, tapering apex, with 1-2 elongate and usually a few short setae at apex; right paramere narrow, almost straight, with 2 elongate and a few shorter setae at apex and with a very dense fringe of numerous elongate setae all along the lower margin.

♀ genitalia (Fig. 19). Stylomere 1 elongate, without any setae at apical rim; stylomere 2 curved, with elongate, quite acute apex; with 2 ventro-lateral ensiform setae of which the lateral one is slightly smaller, one markedly elongate dorso-median ensiform seta arising about at middle of stylomere, and a single, short nematiform seta arising from the median surface of stylomere 2 far below apex.

Variation. Some variation noted in size and relative shape of pronotum and elytra which can be more or less ovoid.

Collecting circumstances. Labelled specimens collected in pitfall traps or intercept traps in montane rain forest.

Distribution (Fig. 49). Northernmost New South Wales and Border Range in south-eastern Queensland.

Etymology. The name refers to the markedly heart-shaped pronotum.

Relationships. According to shape of aedeagus within group probably nearest related to *M. niger* Castelnau and *M. quinquesulcatus* n. sp.

***Meonis subconvexus* n. sp.** (figs 4, 34, 49)

Type specimens. Holotype: ♂, *Meonis niger*, Cast. / *Meonis niger* Cast. Australia. (SAMA). – Paratypes: 2 ♀♀, Clarence R. N. S. Wales / *Meonis niger*, Casteln. Clarence River / Topotype S. Misko det. 1976 (ANIC-MMS).

Diagnosis. Medium sized species, characterized by 5-striate elytra and presence of additional anterior marginal setae on pronotum; distinguished from most closely related *M. angustior* n. sp. by shorter and wider pronotum with relatively narrower base, wider, more oval-shaped elytra, and the knob-shaped apex of the left paramere.

Description.

Measurements. Length: 12.3-13.1 mm; width: 4.8-5.2 mm. **Ratios.** Length/width of pronotum: 0.93-0.96; widest diameter/width of base of pronotum: 1.40-1.41; length/width of elytra: 1.45-1.50; width of elytra/pronotum: 1.37-1.45.

Colouration. Black, antennae except for basal antennomere, mouth parts, and tarsi piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, straight. Antenna elongate, median antennomeres almost 3 x as long as wide.

Pronotum (Fig. 34). Cordiform, shorter than wide, lateral margins evenly convex to near base, shortly sinuate in front of base, basal angles about rectangular, not or barely produced laterally. 2-3 anterior marginal setae present. Surface gently convex. Basal grooves elongate, very slightly sinuate.

Elytra. Moderately elongate, gently oviform, moderately incurved

towards base. Humeral angle distinct, but wider than rectangular. Disk 5-striate, striae complete, deeply impressed, almost impunctate. Inner five intervals convex. No traces of external striae visible. Surface with extremely fine and superficial, very transverse meshes.

Lower surface. Of ordinary shape. Terminal abdominal sternite 4-setose in both sexes.

Legs. Of ordinary shape.

♂ genitalia (Fig. 4). Genital ring compact, oval shaped, rather asymmetric, unusually wide. Aedeagus elongate, markedly narrow; laterally depressed, rather sinuate; lower surface markedly sinuate-angulate; widened to the oblique-straight apex; orificium elongate, situated almost completely on right side; apical margin incurved into internal sac at left side, forming a sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres elongate, about half as long as aedeagus; left paramere much wider than the right one, unusually short, with very short, knob-shaped apex, with one elongate and one short seta at apex; right paramere narrow, sinuate, with 2 elongate and a few shorter setae at apex and with a very dense fringe of numerous elongate setae all along the lower margin.

♀ genitalia. Similar to those of *M. cordicollis* n. sp.

Variation. Apart from some differences in relative shape of pronotum and elytra little variation noted.

Collecting circumstances. Unknown.

Distribution (Fig. 49). Clarence River area in north-eastern New South Wales.

Etymology. The name refers to the moderately convex elytra of this species.

Relationships. According to shape of aedeagus within group probably nearest related to *M. angustior* n. sp.

Meonis angustior n. sp. (figs 5, 35, 49)

Type specimens. Holotype: ♂, Mistake Mnts., 3,000-3,500' Via Laidley, S.E. Qld. 10-11.ii.1973 G. B. Monteith (QMT123808).

D i a g n o s i s . Medium sized species, characterized by 5-striate elytra and presence of additional anterior marginal setae on pronotum; distinguished from most closely related *M. subconvexus* n. sp. by longer and narrower pronotum with relatively wider base, narrower, less oval-shaped elytra, and the evenly tapering apex of left paramere.

D e s c r i p t i o n

Measurements. Length: 12.0 mm; width: 4.4 mm. Ratios. Length/width of pronotum: 1.0; widest diameter/width of base of pronotum: 1.50; length/width of elytra: 1.58; width of elytra/pronotum: 1.33.

Colouration. Black, antennae except for basal antennomere, mouth parts, and tarsi reddish-piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, straight. Antenna elongate, median antennomeres almost 3 x as long as wide.

Pronotum (Fig. 35). Cordiform, as long as wide, lateral margins evenly convex to near base, but less so than in *M. subconvexus* n. sp., shortly sinuate in front of base, basal angles about rectangular, barely produced laterally. 2-3 anterior marginal setae present. Surface gently convex. Basal grooves elongate, distinctly sinuate.

Elytra. Elongate, barely oviform, lateral margins in middle almost parallel, moderately incurved towards base. Humeral angle distinct, but much wider than rectangular. Disk 5-striate, striae complete, deeply impressed, almost impunctate. Inner five intervals convex. No traces of external striae visible. Surface with extremely fine and superficial, very transverse meshes.

Lower surface. Of ordinary shape. Terminal abdominal sternite in male 4-setose.

Legs. Of ordinary shape.

♂ genitalia (Fig. 5). Genital ring compact, oval shaped, somewhat asymmetric, with wide apex. Aedeagus elongate; laterally depressed, rather sinuate; lower surface markedly sinuate-angulate; widened to the oblique-straight apex; orificium elongate, situated almost completely on right side; apical margin incurved into internal sac at left side, forming a sclerotized plate inside; internal sac with a com-

plexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres elongate, more than half as long as aedeagus; left paramere much wider than the right one, with acute, tapering apex, with one elongate and one short seta at apex; right paramere narrow, rather straight, with 2 elongate and a few shorter setae at apex and with a very dense fringe of numerous elongate setae all along the lower margin.

♀ genitalia. Unknown.

Variation. Unknown.

Collecting circumstances. Largely unknown. Holotype collected at high altitude.

Distribution (Fig. 49). South-eastern Queensland. Known only from type locality.

Etymology. The name refers to the narrower elytra as compared with the related *M. subconvexus* n. sp.

Relationships. According to shape of aedeagus within group probably nearest related to *M. subconvexus* n. sp.

***Meonis interruptus* n. sp.** (fig. 49)

Type specimens. Holotype: ♀, 27CR NSW App. 3.7 km SW of London Bridge Lookout, (and of FC survey road off London Bridge Rd overlooking gorge) 29:51S, 152:12E London Bridge SF 163C 960m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray, G. Cassis / K119871 (AMS).

Diagnosis. Large species, distinguished from all other species by the combination of 5-striate elytra, though with the 5th stria not impressed in basal quarter, and presence of a single anterior marginal seta on pronotum only.

Description

Measurements. Length: 15.4 mm; width: 5.6 mm. Ratios. Length/width of pronotum: 0.98; widest diameter/width of base of pronotum: 1.44; length/width of elytra: 1.61; width of elytra/pronotum: 1.32.

Colouration. Black, antennae except for four basal antennomeres, mouth parts, and tarsi reddish-piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, bisinuate. Posterior part of frons in middle with a transverse depression. Antenna elongate, median antennomeres almost 3 x as long as wide.

Pronotum. Cordiform, slightly shorter than wide, lateral margins evenly convex to near base, shortly sinuate in front of base, basal angles about rectangular, barely produced laterally. A single anterior marginal seta present, located at anterior third. Surface gently convex. Basal grooves moderately elongate, straight.

Elytra. Elongate, slightly oviform, moderately incurved towards base. Humeral angle almost rounded. Disk 5-striate, inner four striae complete and deeply impressed, but 5th stria barely impressed in basal quarter, striae impunctate. Inner five intervals gently convex. 6th and 7th striae indicated for almost their full length, but not at all impressed. Surface with extremely fine and superficial, very transverse meshes.

Lower surface. Of ordinary shape. Terminal abdominal sternite in female 6-setose.

Legs. Of ordinary shape.

♂ genitalia. Unknown.

♀ genitalia. Similar to those of *M. cordicollis* n. sp.

Variation. Unknown.

Collecting circumstances. Largely unknown. Holotype collected at high altitude.

Distribution (Fig. 49). Glen Innes area. Known only from type locality.

Etymology. The name refers to the basal interruption of 5th stria.

Relationships. Uncertain, because male genitalia are still unknown.

Meonis angusticollis Sloane (figs 6, 27, 38, 50)

SLOANE, 1911: 825; 1915: 449 (as *angulicollis*!); 1916: 200, 201; CSIKI 1929: 484; STRANEO 1941: 86; MOORE *et al.* 1987: 152; LORENZ 1998: 224; 2005: 245.

Type specimens. Lectotype: ♀, Dorrigo T.G.S. 7.10 / *Meonis angusticollis* Sl. Id. by T. G. Sloane / ? Lectoholotype (red) (SAMA). – Paralectotypes: 1 ♀, Dorrigo T.G.S. 7.10 / Type ♀ (red)

/ *Meonis angusticollis* Sl. ♀ Type (red margin) / T-11863 *Meonis angusticollis* SYNTYPE (NMV); 2 ♀♀, Dorrigo 7.10. HJC. / H. J. Carter Coll. P. 20.4.22. / *Meonis angusticollis* Sl. (Cotype) (NMV).

Note. The lectotype seems to be the single specimen from the type series in SAMA, although MOORE *et al.* (1987) note two of originally four specimens as present in that collection. The syntypes from NMV were not noted by MOORE *et al.* (1987) but doubtless belong to the type series and probably represent the three lacking specimens said to have been present in SAMA. According to the handwritten label, either Straneo or Darlington (doubtfully) designated the SAMA specimen the lectotype.

Diagnosis. Small to medium sized species characterized by the markedly elongate, moderately cordiform pronotum and 4-striate elytra with the 5th stria impressed only in apical third, but the 4th stria complete, and by presence of a single anterior marginal seta on pronotum only. Distinguished from most closely related *M. styx* n. sp. by laterally distinctly produced basal angles of pronotum, shorter and wider elytra, and shorter and more compact, on lower surface sinuate aedeagus bearing a less produced apex.

Redescription

Measurements. Length: 8.3-13.1 mm; width: 3.1-4.7 mm. **Ratios.** Length/width of pronotum: 1.03-1.05; widest diameter/width of base of pronotum: 1.40-1.45; length/width of elytra: 1.49-1.58; width of elytra/pronotum: 1.30-1.38.

Colouration. Black, mouth parts reddish-piceous to piceous, only outer antennomeres slightly lighter than the basal ones, tarsi dark piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, straight. Antenna elongate, median antennomeres almost 3 x as long as wide.

Pronotum (Fig. 27). Cordiform, distinctly longer than wide, lateral margins evenly convex to near base, shortly sinuate in front of base, basal angles slightly acute, distinctly produced laterally. A single anterior marginal seta present, located at anterior third. Surface markedly convex. Marginal sulci very narrow. Basal grooves comparably shallow, moderately elongate, straight or little sinuate.

Elytra (Fig. 38). Rather elongate, distinctly oviform, incurved towards base. Humeral angle very little angulate. Disk 4-striate,

inner four striae complete and deeply impressed, 5th stria only impressed in apical third or quarter, basally indicated but not at all impressed, striae impunctate. Inner five intervals very little convex. Outer striae usually absent, but sometimes vaguely indicated. Surface with extremely fine and superficial, very transverse meshes.

Lower surface. Of ordinary shape. Terminal abdominal sternite 4-setose in both sexes.

Legs. Of ordinary shape.

♂ genitalia (Fig. 6). Genital ring compact, regularly oval shaped, symmetric, rather narrow, with narrow base. Aedeagus fairly elongate; laterally depressed, rather sinuate; lower surface bisinuate, but not angulate; widened to the oblique and straight apex; orificium rather short, situated almost completely on right side; apical margin very slightly incurved into internal sac at left side, forming a small sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres elongate, slightly more than half as long as aedeagus; left paramere much wider than right one, with acute, tapering apex, with 4-6 elongate setae at apex and 4-6 shorter setae each above and below apex; right paramere rather narrow, almost straight, with 3-4 elongate setae at apex, a few shorter setae above apex and with about 6 elongate setae on lower margin near apex, and another 3-5 shorter setae behind middle, but with a wide gap between both groups of setae.

♀ genitalia. Similar to those of *M. cordicollis* n. sp.

Variation. Apparently this is a very variable species with respect to body size. Shape of pronotum and elytra vary to a quite lesser degree, and striation of elytra is also little variable. The differences in body size do not seem to be due to sexual variation. However, the single available large male unfortunately has damaged genitalia, hence at present it is impossible either to corroborate the identity, either to demonstrate the specific difference of the small and large specimens, respectively. Both, the lectotype and the paralectotype are of intermediate body size.

Collecting circumstances. Largely unknown, though one specimen sampled in "rainforest pitfall".

Distribution (Fig. 50). Dorrigo area in north-eastern New South Wales.

Additional examined material (17 ex.). NSW: 2 ♂♂, 4 ♀♀, Dorrigo N.P., 10.10.73, 18.4.75, 10.10.77, 20.9.79, D. A. Doolan / *Meonis angusticollis* Sl. det. B. P. Moore 1998 (AMS, CBM); 1 ♀, Bobo Ck., 10.10.73, D. A. Doolan / D. A. Doolan Collection (AMS); 2 ♀♀, Dorrigo, 15.11.11. R.J.T. / *Meonis angusticollis* Sl. Id. by T. G. Sloane (AMS); 2 ♂♂, Dorrigo, T.G.S. 7.10. / *Meonis longicollis* Sl. small form (Sloane's hand!) (ANIC); 1 ♀, Dorrigo T.G.S. 7.10 / *Meonis angusticollis* Sl. Smaller form Id. by T. G. Sloane / 7724 *Meonis angusticollis* Sl. N. S. Wales (SAMA); 1 ♂, The Glade Dorrigo 152°44'E. 30°24'S. 800m. G. & S. Monteith 1980-1981, B/1 Pitfall 102 (QMB); 1 ♂, Dorrigo, N.S.W. Jan. 1931 C. Oke / *Meonis ?longicollis* Sl.? or *?angulicollis* Sl.? / *Meonis angusticollis* Sl. Det. B. P. Moore (NMV); 1 ♂ (defect), Dorrigo H. W. Cox / *Meonis angusticollis*, Sl. (WADA); 1 ♂, Dorrigo Nat. Pk. Via Dorrigo, N.S.W. 10.iv.1966. G. Monteith (UQIC Reg. #90228); 1 ♂, without label (AMS).

Relationships. According to the elongate pronotum and to shape of aedeagus within the group of species that possess remnants of the 5th stria probably nearest related to *M. styx* n. sp.

***Meonis styx* n. sp.** (figs 7, 28, 50)

Type specimens. Holotype: ♂, 30.36S 152.10E NSW Styx River SF., W end Thru Road, 24 km SE Wollomombi 25Feb/15Mar. 1993 980m, FIT D. Chandler / F.I.T. ANIC 1410 cut wet sclerophyll forest (ANIC).

Diagnosis. Medium sized species characterized by the elongate, moderately cordiform pronotum and 4-striate elytra with the 5th stria only impressed close to apex, and with the 4th stria not impressed in basal fifth, and by presence of a single anterior marginal seta on pronotum only. Distinguished from most closely related *M. angusticollis* Sloane by straight, not at all laterally produced basal angles of pronotum, longer and narrower elytra, and longer and narrower, on lower surface not sinuate aedeagus bearing a distinctly produced apex.

Description

Measurements. Length: 11.8 mm; width: 3.9 mm. Ratios. Length/width of pronotum: 1.09; widest diameter/width of base of

pronotum: 1.51; length/width of elytra: 1.63; width of elytra/pronotum: 1.28.

Colouration. Black, mouth parts reddish-piceous to piceous, outer antennomeres barely lighter than the basal ones, tarsi dark piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, straight. Antenna elongate, median antennomeres almost 3 x as long as wide.

Pronotum (Fig. 28). Cordiform, distinctly longer than wide, lateral margins evenly convex to near base, shortly sinuate in front of base, basal angles rectangular, even slightly obtuse, not produced laterally. A single anterior marginal seta present, located at anterior third. Surface markedly convex. Marginal sulci very narrow. Basal grooves comparably shallow, moderately elongate, slightly sinuate.

Elytra. Narrow and elongate, barely oviform, lateral margins in middle almost parallel, little incurved towards base. Humeral angle very little angulate. Disk 4-striate, but 4th stria barely impressed in basal fifth, inner three striae complete and deeply impressed, 5th stria only impressed in apical third or quarter, basally indicated but not at all impressed, striae impunctate. Inner five intervals very little convex. Outer striae barely indicated. Surface with extremely fine and superficial, very transverse meshes.

Lower surface. Of ordinary shape. Terminal abdominal sternite in male 4-setose.

Legs. Of ordinary shape.

♂ genitalia (Fig. 7). Genital ring rather compact, oval shaped, slightly asymmetric, rather narrow, with narrow base. Aedeagus elongate; laterally depressed, markedly sinuate; lower surface almost regularly sinuate, not angulate; widened to the oblique apex that is distinctly produced at its lower part; orificium rather short, situated almost completely on right side; apical margin very slightly incurved into internal sac at left side, forming a small sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres elongate, slightly more than half as long as aedeagus; left paramere much wider than the right one, with acute, tapering apex, with 3 very elongate setae at apex and 4 shorter setae each above and below apex; right paramere rather narrow, almost straight, with 5 elongate setae at apex, a few shorter setae above

apex and with about 6 elongate setae on lower margin near apex, and another 3 slightly shorter setae behind middle, but with a gap between both groups of setae.

♀ genitalia. Unknown.

Variation. Unknown.

Collecting circumstances. The holotype was collected at rather high altitude in "cut wet sclerophyll forest".

Distribution (Fig. 50). Styx River area, northern New South Wales. Known only from type locality.

Etymology. The name is an acronym and refers to the type locality, Styx River.

Relationships. According to the elongate pronotum and to shape of aedeagus within the group of species that possess remnants of the 5th stria probably nearest related to *M. angusticollis* Sloane.

***Meonis convexus* Sloane**

This species apparently occurs in two slightly different populations that are distinguished by size and shape of pronotum and of head. Unfortunately no intact males of the nominate form are available, hence comparison of the male genitalia are so far impossible.

Diagnosis. Medium sized to rather large species characterized by the rather short, moderately cordiform pronotum and 4-striate elytra with the 5th stria impressed close to apex, and by presence of a single anterior marginal seta on pronotum only. Distinguished from related species by combination of voluminous pronotum bearing straight, laterally not produced basal angles, of elongate, laterally parallel elytra, and of comparatively short right paramere.

Relationships. According to shape of aedeagus within the group of species that possess remnants of the 5th stria probably nearest related to *M. magnus* n. sp. and *M. carteri* n. sp.

***Meonis convexus convexus* Sloane (figs 29, 39, 50)**

SLOANE, 1900: 562; 1911: 827; 1915: 449; 1916: 201; CSIKI 1929: 484; MOORE *et al.* 1987: 152; LORENZ 1998: 224; 2005: 245.

Type specimens. Holotype: ♀, Swood. 10/2/89 ♀ N / Type / *Meonis convexus*, Sl Type / Holotype *M. convexus* Sl. PJD (red) (ANIC). – Paratype: 1 ♂ (abdomen defect), Blue Mts. N. S. Wales / Paratype (blue) / *Meonis convexus*, Sl. Wentworth Falls (ANIC-MMS).

Note. Both description and label designation give the female specimen as “type” which therefore has been correctly labelled “Holotype”.

Diagnosis. As for species; differs from *M. convexus coricudgyi* n. ssp. by larger size, dorsally and laterally more convex pronotum, and laterally less convex elytra.

Redescription

Measurements. Length: 11.7-13.8 mm; width: 4.1-4.7 mm. **Ratios.** Length/width of pronotum: 0.92-1.02; widest diameter/width of base of pronotum: 1.44-1.55; length/width of elytra: 1.55-1.65; width of elytra/pronotum: 1.24-1.30.

Colouration. Black, mouth parts reddish-piceous to piceous, outer antennomeres barely lighter than the basal ones, tarsi dark piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, straight. Antenna elongate, median antennomeres almost 3 x as long as wide.

Pronotum (Fig. 29). Markedly cordiform, usually wider than long, voluminous, lateral margins evenly convex to near base, shortly sinuate in front of base, basal angles rectangular, not produced laterally. A single anterior marginal seta present, located at anterior third. Surface gently convex. Basal grooves moderately shallow, elongate, slightly sinuate.

Elytra (Fig. 39). Rather narrow and elongate, not oviform, lateral margins in middle usually parallel, little incurved towards base. Humeral angle very little angulate. Disk 4-striate, inner four striae complete and deeply impressed, 5th stria only impressed in apical third or quarter, basally indicated but not at all impressed, striae impunctate. Inner four intervals gently convex. Outer striae barely indicated. Surface with extremely fine and highly superficial, transverse lines.

Lower surface. Of ordinary shape. Terminal abdominal sternite 4-setose in both sexes.

Legs. Of ordinary shape.

♂ genitalia. Unknown.

♀ genitalia. Similar to those of *M. cordicollis* n. sp.

Variation. Some variation noted in size and in particular in relative shape of pronotum.

Collecting circumstances. Unknown.

Distribution (Fig. 50). Blue Mountains, central eastern New South Wales, known so far only from the Springwood to Lithgow area along the Western Hwy. and from the Hawkesbury River area.

Additional examined material (5 ex.). NSW: 2 ♀♀, Wallerawang, N.S.W. T.G.S. 11.11.23 (ANIC, CBM); 1 ♂ (abdomen defect), Blue Mts. N. S. Wales / *Meonis convexus* Sl. / *Meonis convexus* Sloane N.S.W. (ANIC); 1 ♂ (abdomen defect), Hawkesbury R. / Melson Island ? Blacklyn Ferguson (?) ♂ (ANIC); 1 ♀, Nat.Mus.Victoria N. S. Wales / C. French's Coll. 5.11.08 / *Meonis niger* Castl. N. S. Wales (NMV).

***Meonis convexus coricudgyi* n. ssp.** (figs 8, 30, 40, 50)

Type specimens. Holotype: ♂, Australia, NSW Mt. Coricudgy, 941 m 2.2003, G. Hangay (CBM).

Diagnosis. As for species; differs from *M. convexus convexus* Sloane by lesser size, dorsally and laterally less convex pronotum, and laterally more convex elytra.

Description

Measurements. Length: 9.7 mm; width: 3.5 mm. Ratios. Length/width of pronotum: 0.98; widest diameter/width of base of pronotum: 1.47; length/width of elytra: 1.63; width of elytra/pronotum: 1.27.

Colouration. As in nominate subspecies, but generally lighter due to being not fully sclerotized.

Head. As in nominate subspecies.

Pronotum (Fig. 30). Cordiform, but less so than in nominate subspecies, slightly wider than long, lateral margins evenly convex to near base, shortly sinuate in front of base, basal angles rectangular, not produced laterally. A single anterior marginal seta present, located at anterior third. Surface markedly depressed. Basal grooves deep, elongate, slightly sinuate.

Elytra (Fig. 40). Rather narrow and elongate, but somewhat ovi-form, lateral margins in middle distinctly convex, somewhat incurved towards base. Humeral angle very little angulate. Disk 4-striate, inner four striae complete and deeply impressed, 5th stria only impressed in apical fifth, basally indicated but not at all impressed, striae impunctate. Inner four intervals gently convex. Outer striae barely indicated. Surface with extremely fine and highly superficial, transverse lines.

Lower surface. As in nominate subspecies.

Legs. As in nominate subspecies.

♂ genitalia (Fig. 8). Little sclerotized due to rather fresh hatching. Genital ring triangular, slightly asymmetric, moderately wide, with fairly wide base, but very little sclerotized and apparently somewhat deformed. Aedeagus very elongate; laterally depressed, markedly sinuate; lower surface sinuate but not angulate; widened to the almost straight apex; orificium rather short, situated almost completely on right side, divided in middle by a narrow sclerotized part; apical margin slightly incurved into internal sac at left side, forming a small sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres moderately elongate, about half as long as aedeagus; left paramere much wider than the right one, with slightly produced, obtuse apex, with about 5 extremely elongate setae at apex but without additional shorter setae; right paramere comparatively short and wide, almost straight, at upper margin not excised, with 4 very elongate setae at apex, a few shorter setae above apex and with a series of elongate setae on lower margin in apical half, but apparently without setae in basal part. Some of the setae on lower margin extremely elongate.

♀ genitalia. Unknown.

Variation. Unknown.

Collecting circumstances. The holotype was collected in pitfall traps at high altitude in wet sclerophyll forest.

D i s t r i b u t i o n (Fig. 50). Northern Blue Mountains, central eastern New South Wales. Known only from type locality.

E t y m o l o g y. The name refers to the type locality of this subspecies, Mt. Coricudgy.

***Meonis magnus* n. sp.** (figs 9, 51)

T y p e s p e c i m e n s. Holotype: ♂, NSW: Mt. Boss SF, Rimau Rd, about 10 km by track E of Cockerswombieba Rd, 700m, 31:11S, 152:21E 4 Feb-9 Apr 1993 32CG, M. Gray, G. Cassis / K119943 (AMS). – Paratypes: 1 ♀, 09CM NSW: Jctn of Woolool Woolloini & Basket Swamp Rd.28:55S,152:08E Boonoo SF 0/163A 1070m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray, G. Cassis / *Meonis* n. sp. det B.P. Moore 1994 / K119869 (AMS); 1 ♀, 39BR NSW NE facing slope above Kunderang Station Ck 30:48S, 152:06E 410m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray, G. Cassis / K119870 (CBM); 1 ♀, m G. Hopson March 21 Taken 6-11-17 / I look upon as conspecific with *M. convexus* Sl. But its size is immense 1.1.32 (ANIC); 1 ♂, *Meonis niger* Cast. Tamworth / 4121 *Meonis convexus* Sln by table. N. S. Wales (SAMA).

D i a g n o s i s. Very large species characterized by the rather short, cordiform pronotum and 4-striate elytra with the 5th stria impressed close to apex, and by presence of a single anterior marginal seta on pronotum only. Distinguished from related species by combination of large body size, pronotum bearing laterally distinctly produced basal angles, elongate aedeagus, and elongate and markedly depressed left paramere.

D e s c r i p t i o n

Measurements. Length: 17.9-20.5 mm; width: 6.1-7.1 mm. **Ratios**. Length/width of pronotum: 0.93-1.01; widest diameter/width of base of pronotum: 1.36-1.44; length/width of elytra: 1.66-1.70; width of elytra/pronotum: 1.25-1.30(1.39).

Colouration. Black, mouth parts reddish-piceous to piceous, outer antennomeres barely lighter than the basal ones, tarsi dark piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, slightly curved. Antenna elongate, median antennomeres almost 3 x as long as wide.

Pronotum. Markedly cordiform, usually wider than long, voluminous, lateral margins evenly convex to near base, shortly sinuate in front of base, basal angles rectangular, but distinctly produced laterally. A single anterior marginal seta present, located at anterior third. Surface gently convex. Basal grooves moderately shallow, rather short, slightly sinuate.

Elytra. Narrow and elongate, barely oviform, lateral margins in middle very slightly convex, little incurved towards base. Humeral angle very little angulate. Disk 4-striate, inner four striae complete and deeply impressed, 5th stria only impressed in apical third or quarter, basally indicated but not at all impressed, striae impunctate. Inner four intervals convex. Outer striae barely indicated. Surface with extremely fine and highly superficial, transverse meshes and lines.

Lower surface. Of ordinary shape. Terminal abdominal sternite 6-setose in both sexes.

Legs. Of ordinary shape.

♂ genitalia (Fig. 9). Genital ring rather compact, oval shaped, almost symmetric, moderately wide, with convex apes, in the single examined male very strongly sclerotized. Aedeagus elongate; laterally depressed, markedly sinuate; lower surface moderately sinuate, but barely angulate; barely widened to the almost straight apex; orificium rather short, situated almost completely on right side, divided in middle by a narrow sclerotized part; apical margin very slightly incurved into internal sac at left side, forming a small sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres very elongate, slightly longer than half of length of aedeagus, not at all sinuate at upper margin; left paramere much wider than the right one, but comparatively narrow, with acute, tapering apex, with 6-8 very elongate setae at apex and a few shorter setae between these; right paramere narrow, almost straight, with about 6 elongate setae at apex, one or a few shorter setae above apex and with a dense, in middle shortly interrupted fringe of setae along lower margin that become slightly shorter towards base of paramere.

♀ genitalia. Similar to those of *M. cordicollis* n. sp.

Variation. Some variation noted in relative width of pronotum and elytra, because one large specimen possesses an unusually

narrow pronotum due to a slight impression in middle of lateral margin at the widest diameter. Otherwise little variation noted.

Collecting circumstances. Largely unknown, labelled specimens collected between 410-1070 m.

Distribution (Fig. 51). Glen Innes and Tamworth areas, northern New South Wales.

Etymology. The name refers to the large size of this species.

Relationships. According to shape of aedeagus within the group of species that possess remnants of the 5th stria probably nearest related to *M. convexus* Sloane and *M. carteri* n. sp.

***Meonis carteri* n. sp.** (figs 10, 41, 51)

Type specimens. Holotype: ♂, *Meonis amplicollis* Sl. Id. by HJCarter / Gloucester HJC. 11.33 (ANIC).

Diagnosis. Rather large species characterized by the elongate, little cordiform pronotum and 4-striate elytra with the 5th stria impressed close to apex, and by presence of a single anterior marginal seta on pronotum only. Distinguished from related species by combination of shape of pronotum bearing laterally distinctly produced basal angles, moderately elongate aedeagus, and not depressed left paramere bearing a markedly acute, tapering apex.

Description

Measurements. Length: 13.8 mm; width: 4.8 mm. Ratios. Length/width of pronotum: 1.09; widest diameter/width of base of pronotum: 1.27; length/width of elytra: 1.69; width of elytra/pronotum: 1.37.

Colouration. Piceous-black, due to being not fully sclerotized, mouth parts reddish-piceous to piceous, outer antennomeres barely lighter than the basal ones, tarsi dark piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, slightly curved. Antenna elongate, median antennomeres almost 3 x as long as wide.

Pronotum. Moderately cordiform, considerably longer than wide, lateral margins gently convex to near base, very shortly sin-

uate in front of base, basal angles distinctly produced laterally. A single anterior marginal seta present, located at anterior third. Surface gently convex. Basal grooves moderately shallow, rather elongate, slightly sinuate.

Elytra (Fig. 41). Narrow and elongate, barely oviform, lateral margins in middle parallel, little incurved towards base. Humeral angle very little angulate. Surface very convex. Disk 4-striate, inner four striae complete and deeply impressed, 5th stria only impressed in apical quarter, basally indicated but not at all impressed, striae impunctate. Inner four intervals convex. Outer striae finely indicated. Surface with extremely fine and highly superficial, transverse meshes and lines.

Lower surface. Of ordinary shape. Terminal abdominal sternite in male 6-setose.

Legs. Of ordinary shape.

♂ genitalia (Fig. 10). Genital ring rather compact, oval shaped, almost symmetric, rather wide, with very narrow base and acute apex. Aedeagus very elongate; laterally depressed, markedly sinuate; lower surface moderately sinuate, but not angulate; widened to the straight apex; orificium rather elongate, situated almost completely on right side, but divided in middle by a narrow sclerotized part; apical margin very slightly incurved into internal sac at left side, forming a small sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres very elongate, considerably longer than half of length of aedeagus; left paramere much wider than the right one, with acute, tapering apex, with 6-8 very elongate setae at apex and a few shorter setae above and below apex; right paramere narrow, almost straight, with 4 elongate setae at apex, a few shorter setae above apex and with a dense fringe of setae all along lower margin that become considerably shorter towards base of paramere.

♀ genitalia. Unknown.

Variation. Unknown.

Collecting circumstances. Unknown.

Distribution (Fig. 51). Gloucester area east of Barrington Tops, central eastern New South Wales. Known only from type locality.

E t y m o l o g y. The name is a patronym and honours the collector of this species, the late H. J. Carter.

R e l a t i o n s h i p s. According to shape of aedeagus within the group of species that possess remnants of the 5th stria probably nearest related to *M. convexus* Sloane and *M. magnus* n. sp.

***Meonis ater* Castelnau**

According to the available material, this species occurs in five populations that are partly distinguished by their external morphology, partly by slightly different male genitalia. Although the available aedeagi are very similar, differences are noted in shape of both parameres. Because the ranges of the populations apparently are also separated, they are preliminarily described as subspecies which, nevertheless, must be still very closely related.

D i a g n o s i s. Small to medium-sized species characterized by the markedly cordiform pronotum and 4-striate elytra with 5th stria not impressed, and by presence of a single anterior marginal seta on pronotum only. Distinguished from related species by combination of the markedly cordiform pronotum, moderately elongate aedeagus the apex of which is rather oblique and slightly produced, and not depressed left paramere. Distinguished from *M. amplicollis* Sloane which also has only four impressed striae by lesser size and completely impressed 4th stria.

R e l a t i o n s h i p s. With respect to shape of aedeagus and shape and setosity of parameres most similar to *M. angusticollis* Sloane and *M. styx* n. sp., and *M. carteri* n. sp., respectively. The relations to *M. amplicollis* Sloane which has only four impressed striae like *M. ater* are uncertain, because the male genitalia of *M. amplicollis* are not yet known.

***Meonis ater ater* Castelnau (figs 11, 51)**

CASTELNAU, 1867: 70; 1868: 156; SLOANE 1900: 563; 1911: 827; 1915: 449; 1916: 201; CSIKI 1929: 484; STRANEO 1941: 86; MOORE *et al.* 1987: 152; LORENZ 1998: 224; 2005: 245; BAEHR 2003: 94.

T y p e s p e c i m e n s. Lectotype: ♂, Clarence Riv. Coll. Castelnau / Typus (red margin) / *Meonis ater* Cast. / Syntypus

Meonis ater Castelnau, 1867 (red) / Lectotypus *Meonis ater* Cast. des. Straneo, 1941 (red) (MSNG).

Note. A second specimen from the Castelnau Collection from "Pine Mountain" near Brisbane does not bear any type label but bears a label "det. Castelnau". However, it was not designated paralectotype by Straneo, although it most probably belongs to the type series. It may represent that specimen on which the type locality "Brisbane" is based in Moore's catalogue (MOORE *et al.* 1987).

For the doubtful synonymy with *M. amplicollis* Sloane (STRANEO 1941, MOORE *et al.* 1987, LORENZ 1998, 2005) see under *M. amplicollis*.

Diagnosis. Distinguished from the other subspecies by combination of rather small size, moderately wide and cordiform pronotum, fairly elongate elytra, moderately elongate right paramere, and slightly produced apex of left paramere.

Redescription

Measurements. Length: 10.2-10.8 mm; width: 3.65-4.0 mm. **Ratios.** Length/width of pronotum: 0.96-0.97; widest diameter/width of base of pronotum: 1.51-1.53; length/width of elytra: 1.55-1.57; width of elytra/pronotum: 1.31-1.34.

Colouration. Black, mouth parts and antenna apart from basal antennomere reddish-piceous to piceous, tarsi reddish-piceous to dark piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, slightly curved. Antenna rather elongate, median antennomeres almost 3 x as long as wide.

Pronotum. Moderately cordiform, slightly wider than long, lateral margins convex to near base, shortly sinuate in front of base, basal angles rectangular, not or barely produced laterally. A single anterior marginal seta present, located at anterior third. Surface gently convex. Basal grooves rather deep, elongate, almost straight.

Elytra. Fairly elongate, distinctly oviform, lateral margins convex throughout, incurved towards base. Humeral angle very little angulate. Surface moderately convex. Disk 4-striate, inner four striae complete and deeply impressed, 5th stria not impressed but finely indicated over most of its length, striae impunctate. Inner four intervals gently convex. Surface with extremely fine and highly superficial, transverse meshes and lines.

Lower surface. Of ordinary shape. Terminal abdominal sternite in male 4-setose.

Legs. Of ordinary shape.

♂ genitalia (Fig. 11). Genital ring rather compact, oval shaped, almost symmetric, rather wide, with narrow base. Aedeagus elongate; laterally depressed, markedly sinuate; lower surface moderately sinuate-angulate; widened to the slightly oblique apex that is very slightly produced at its lower side; orificium rather elongate, situated almost completely on right side; apical margin very slightly incurved into internal sac at left side, forming a small sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres elongate, slightly longer than half of length of aedeagus, both deeply sinuate at upper margin; left paramere much wider than the right one, with short, slightly produced, obtuse apex, with about 10 very elongate setae at apex and a few shorter setae above and sometimes also below apex; right paramere narrow, almost straight, with 4 elongate setae at apex, one or a few shorter setae above apex and with a dense fringe of setae all along lower margin that become slightly shorter towards base of paramere.

♀ genitalia. Unknown.

Variation. Little variation noted due to very sparse material supply.

Collecting circumstances. Unknown.

Distribution (Fig. 51). Extreme north-eastern New South Wales, adjacent south-eastern Queensland.

Relationships. According to shape of left and right parameres *M. ater ater* takes an intermediate position between *M. ater longipennis* n. ssp. and *M. ater bunyanus* n. ssp.

Additional examined material (1 ex.). QLD: 1 ♂, Pine mount. Coll. Castelnau / *Meonis ater* Cast. det. Castelnau (MSNG).

***Meonis ater bunyanus* n. ssp.** (figs 12, 31, 42, 46, 51)

Type specimens. Holotype: ♂, Bunya Mts., S. E. Qld. 18-19.x.1972 B. Cantrell (QMT123809). – Paratypes: 1 ♂, 1

♀, same data (QMB); 1 ♀, Bunya Mts., S. E. Qld. 23.VII.1972 B. Cantrell (QMB); 1 ♀, Bunya Mts., Q. (26.50S 151.33E) 5 km NW. of Mt. Mowbullen, 3350' 8.i.70, under logs in forest, Britton, Holloway & Misko (ANIC); 2 ♀♀, Bunya Mt. Q., H.J.C. 10.19 (ANIC); 1 ♂, Bunya Mt., 1000-1100m s. Qld., Australien 16.12.81-25.1.1982 M. Baehr (CBM); 1 ♂, Pitfall 19 A/2 ♂ Bunya Mts, S. E. Qld. G. B. & S. R. Monteith (QMB); 1 ♀, Dorrigo, NSW Jan. 1931 C. Oke / *Meonis ater* Cast. (*amplicollis* Sl.) Det. B. P. Moore (NMV); 1 ♂, 1 ♀, Bunya Mts. Queensland (UQIC Reg. #90362, #90524); 1 ♂, Bunya Mts, Qld. 5 June 1959. I. C. Yeo (UQIC Reg. #90347).

D i a g n o s i s . Distinguished from the other subspecies by combination of rather small size, wide and cordiform pronotum, comparatively short elytra, elongate right paramere, and markedly produced apex of left paramere.

D e s c r i p t i o n

Measurements. Length: 8.6-10.9 mm; width: 3.2-4.2 mm. **Ratios.** Length/width of pronotum: 0.89-0.94; widest diameter/width of base of pronotum: 1.51-1.59; length/width of elytra: 1.49-1.55; width of elytra/pronotum: 1.33-1.34.

Colouration. As in nominate subspecies.

Head. As in nominate subspecies.

Pronotum (Fig. 31). As in nominate subspecies, but usually more cordiform.

Elytra (Figs 42, 46). As in nominate subspecies, but usually shorter though less oviform.

Lower surface. As in nominate subspecies.

Legs. As in nominate subspecies.

♂ genitalia (Fig. 12). As in nominate subspecies, but right paramere with slightly longer apex, and left paramere with acute, tapering apex and, with 6-8 very elongate setae at apex and a few shorter setae above and sometimes also below apex.

♀ genitalia. Similar to those of *M. cordicollis* n. sp.

Variation. Some minor variation is noted in relative width of prothorax and in length of elytra.

Collecting circumstances: One specimen collected in "pitfall", two under logs in montane subtropical rainforest.

D i s t r i b u t i o n (Fig. 51). Bunya Mountains. In external shape and structure the specimen from "Dorrigo" is similar to those from Bunya mountains, but as it is a female, the problem cannot be finally settled. Probably the locality is wrong, because *M. ater* so far is known only from the immediate NSW/QLD border and from south-eastern Queensland, but not from as far south as Dorrigo.

E t y m o l o g y. The name refers to the type locality, Bunya Mountains in south-eastern Queensland.

R e l a t i o n s h i p s. In shape of left and right parameres *M. ater bunyanus* occupies an extreme position in a morphological cline leading from *M. ater bunyanus* to *M. ater ater* Castelnau, *M. ater longipennis* n. ssp. and *M. ater gloriosus* n. ssp., while *M. ater macleayi* n. ssp. is not yet arranged due to lacking information about its male genitalia.

***Meonis ater longipennis* n. ssp.** (figs 13, 43, 51)

T y p e s p e c i m e n s. Holotype: ♂, Ravensbourne Nat. Pk., via Crows Nest, S. E. Qld. 4.xi.1973 G. B. Monteith (QMT123811).

D i a g n o s i s. Distinguished from the other subspecies by combination of moderate size, rather wide and markedly cordiform pronotum, elongate, almost parallel elytra, moderately elongate right paramere, and barely produced apex of left paramere.

D e s c r i p t i o n

Measurements. Length: 10.6 mm; width: 3.7 mm. Ratios. Length/width of pronotum: 0.95; widest diameter/width of base of pronotum: 1.58; length/width of elytra: 1.65; width of elytra/pronotum: 1.26.

Colouration. As in nominate subspecies.

Head. As in nominate subspecies.

Pronotum. As in nominate subspecies.

Elytra (Fig. 43). As in nominate subspecies, but considerably longer and in middle almost parallel-sided.

Lower surface. As in nominate subspecies.

Legs. As in nominate subspecies.

♂ genitalia (Fig. 13). As in nominate subspecies, but right paramere with slightly shorter apex, and left paramere with obtuse, barely protruding apex.

♀ genitalia. Unknown.

Variation. Unknown.

Collecting circumstances. Largely unknown, but holotype collected in rain forest.

Distribution (Fig. 51). Ravensbourne National Park north-east of Toowoomba, south-eastern Queensland, known only from type locality. This is a small patch of rain forest along the top of Dividing Range.

Etymology. The name refers to the longer and narrower elytra as compared with all other subspecies of *M. ater*.

Relationships. According to shape of left and right parameres *M. ater longipennis* takes an intermediate position between *M. ater ater* Castelnau and *M. ater bunyanus* n. ssp.

***Meonis ater macleayi* n. ssp.** (fig. 52)

Type specimens. Holotype: Gayndah (AMS). – Paratype: 1 (sex ?, abdomen and protarsi missing), K13914 (AMS).

Diagnosis. Distinguished from the other subspecies mainly by the elongate, far less cordiform pronotum that is distinctly longer than wide.

Description

Measurements. Length: 9.9-10.9 mm; width: 3.6-3.95 mm. Ratios. Length/width of pronotum: 1.0-1.03; widest diameter/width of base of pronotum: 1.52-1.54; length/width of elytra: 1.53-1.56; width of elytra/pronotum: 1.33-1.34.

Colouration. As in nominate subspecies.

Head. As in nominate subspecies.

Pronotum. As in nominate subspecies, but considerably longer and far less cordiform.

Elytra. As in nominate subspecies, rather oviform.

Lower surface. As in nominate subspecies.

Legs. As in nominate subspecies.

♂ genitalia. Unknown.

♀ genitalia. Unknown.

Variation. Except for different body size very little variation noted.

Collecting circumstances. Unknown.

Distribution (Fig. 52). So far known only from "Gayndah" in southern Queensland.

Etymology. The name is a patronym and honours W. S. Macleay who was one of the first scientists to deal with Australian carabid beetles.

Relationships. Uncertain, because male genitalia are yet unknown.

***Meonis ater gloriosus* n. ssp.** (figs 14, 52)

Type specimens. Holotype: ♂, Mt. Glorious, S. E. Qld. 23.iii.1974 G. B. Monteith / Rain Forest (QMT123810). – Paratypes: 1 ♀, Mt. Glorious, Q 17.iv.1971 D. I. Hancock (CBM); 1 ♂, Brisbane Illidge / 5073 *Meonis ater* Cast. by Sln's table. Queensland (SAMA); 1 ♀, Bris. (UQIC Reg. #90282).

Diagnosis. Distinguished from the other subspecies by combination of comparatively large size, moderately wide but markedly cordiform pronotum, moderately elongate elytra, short right paramere, and not produced, evenly rounded apex of left paramere.

Description

Measurements. Length: 11.6-12.2 mm; width: 4.0-4.3 mm. Ratios. Length/width of pronotum: 0.93-0.96; widest diameter/width of base of pronotum: 1.56-1.61; length/width of elytra: 1.54-1.58; width of elytra/pronotum: 1.28-1.33.

Colouration. As in nominate subspecies.

Head. As in nominate subspecies.

Pronotum. As in nominate subspecies, markedly cordiform.

Elytra. As in nominate subspecies.

Lower surface. As in nominate subspecies.

Legs. As in nominate subspecies.

♂ genitalia (Fig. 14). As in nominate subspecies, but aedeagus slightly stouter; right paramere shorter; left paramere with rounded, not at all produced apex.

♀ genitalia. Similar to those of *M. cordicollis* n. sp.

Variation. Apart from some differences of relative width of pronotum and elytra little variation noted.

Collecting circumstances. Little known. Holotype collected in rain forest.

Distribution (Fig. 52). Brisbane and environments, south-eastern Queensland.

Etymology. The name refers to the type locality, Mt. Glorious near Brisbane.

Relationships. In shape of left and right parameres *M. ater gloriosus* occupies the extreme position in a morphological cline leading from *M. ater bunyanus* n. ssp. to *M. ater ater* Castelnau, *M. ater longipennis* n. ssp. and *M. ater gloriosus* n. ssp., while *M. ater macleayi* n. ssp. is not yet arranged due to lacking information about its male genitalia.

Meonis amplicollis Sloane (figs 47, 52)

SLOANE, 1915: 448; 1916: 201; CSIKI 1929: 484; STRANEO 1941: 86; MOORE *et al.* 1987: 152; LORENZ 1998: 224; 2005: 245.

Type specimens. Holotype: ♀, Tweed R. 10.04 HJC / *M. amplicollis* Sl. Type / Holotype *Meonis amplicollis* Sl. PJD (red) (ANIC).

Note. In his description SLOANE (1911) first quoted *M. amplicollis* as a new name for a "*M. niger* Sloane (non Castelnau)"; later he wrote: "Formerly, I took this species to be *M. ater* Castelnau...". Even later SLOANE differentiated *M. amplicollis* from *M. niger* Castelnau. But the confusion is even more perfect, because on the one hand CSIKI (1929) referred *M. amplicollis* to a *M. ater* Sloane, that SLOANE likewise did not describe, and on the other

hand because STRANEO (1941) synonymized *M. amplicollis* with *M. ater* Castelnau.

But SLOANE never described a *M. niger*, nor a *M. ater*, and in his paper from 1911 he only referred to *M. ater* Castelnau. However, as he had not seen types of both of Castelnau's species, Sloane's commentaries can be neglected at any rate.

Comparison of the types of *M. ater* Castelnau and *M. amplicollis* Sloane demonstrates that they are well differentiated species. Probably STRANEO (1941) did his synomization without having seen SLOANE's type and only on behalf of the presence of four elytral striae in both species.

D i a g n o s i s . Medium-sized species characterized by the wide, markedly cordiform pronotum and 4-striate elytra with 5th stria not impressed, and by presence of a single anterior marginal seta on pronotum only. Distinguished from most similar *M. ater* Castelnau which also has only four impressed striae by larger size and the 4th stria being not impressed apically beyond meeting point of 2nd and 3rd striae.

R e d e s c r i p t i o n

Measurements (in brackets measurements of a differently shaped female specimen that is provisionally included in this species, as long as no males are available). Length: (12.1)12.5-13.5 mm; width: (4.5)4.85-5.0 mm. Ratios. Length/width of pronotum: 0.91-0.93(0.98); widest diameter/width of base of pronotum: 1.54-1.59(1.60); length/width of elytra: 1.51-1.53(1.55); width of elytra/pronotum: 1.30-1.32.

Colouration. Black, mouth parts reddish, antenna reddish-piceous except for four basal antennomeres, tarsi reddish-piceous to dark piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, slightly curved. Antenna rather elongate, median antennomeres almost 3 x as long as wide.

Pronotum. Wide, markedly cordiform, usually distinctly wider than long (but see "variation"), lateral margins convex to near base, shortly sinuate in front of base, basal angles rectangular, slightly produced laterally. A single anterior marginal seta present, located at anterior third. Surface gently convex. Basal grooves deep, elongate, almost straight.

Elytra (Fig. 47). Comparatively short and wide, laterally evenly convex but not markedly oviform, moderately incurved towards base. Humeral angle gently angulate. Surface moderately convex. Disk 4-striate, inner four striae deeply impressed, but 4th stria not impressed near apex, never attaining the meeting point of 2nd and 3rd striae. 5th stria not or barely indicated. Striae impunctate. Inner four intervals gently convex. Surface with extremely fine and highly superficial, transverse meshes and lines.

Lower surface. Of ordinary shape. Terminal abdominal sternite in female 4-setose.

Legs. Of ordinary shape.

♂ genitalia. Unknown.

♀ genitalia. Similar to those of *M. cordicollis* n. sp.

Variation. Rather little variation noted due to sparse material, except for a smaller, differently shaped female specimen from Lamington Plateau, which is provisionally alluded to this species. Although it may well represent a separate taxon, I am reluctant to describe it as a separate species, as long as no males are available, neither from the sampling area, nor from *M. amplicollis* proper.

Collecting circumstances. Largely unknown, one specimen collected in "rainforest" at medium altitude, another probably under log in montane rainforest.

Distribution (Fig. 52). Extreme north-eastern New South Wales and adjacent south-eastern Queensland close to border.

Additional examined material (4 ex.). NSW: 1 ♀, Tweed R. / *Meonis amplicollis* Sl. Id. by T. G. Sloane (SAMA). – QLD: 1 ♀, Rainforest, 1000', 4 ml. s. of Canungra, S. E. Qld. 10.xii.1972 G. B. Monteith (QMB); 1 ♀, Lamington NP Austr./QLD 22.-24.7.2000 leg. Dr. K. Handke (CBM); 1 ♀, Nat. Park Q (UQIC Reg. #90281).

Relationships. Due to lacking knowledge about the male genitalia yet unknown. In view of elytral striation and overall shape, probably related to *M. ater* Castelnau.

Meonis semistriatus Sloane (figs 15, 22, 32, 52)

SLOANE, 1916: 199, 201; CSIKI 1929: 484; MOORE *et al.* 1987: 152; LORENZ 1998: 224; 2005: 245.

Type specimens. Lectotype (by present designation): ♂, Williams R. 4500 ft. Brush T.G.S. 27.12.15 Type / *Meonis semistriatus* Sloane Id. by T. G. Sloane Type / Holotype *M. semistriatus* Sl. PJD (red) (ANIC). – Paralectotypes: 1 ♂, Williams R. 4500 ft. Brush T.G.S. 27.12.15 / *Meonis major* Sl. (mss) Id. by T. G. Sloane / K37795. (AMS); 1 ♀, Williams R. 4500 ft. Brush T.G.S. 27.12.15 / *Meonis semistriatus* Sl Cotype Id. by T. G. Sloane / *Meonis semistriatus* Sl. N. S. Wales, Cotype (SAMA).

Note. The “holotype” designation by Darlington is incorrect, because the description tells nothing about a type designation, but only that 5 specimens were collected. Moreover, the “type” lettering on both labels of the “holotype” was added later, on the first label by Sloane’s hand but with different ink, on the second label most probably by another hand. For these reasons, the “holotype” specimen is herewith designated the lectotype.

Diagnosis. Rather large species, characterized by presence of only 2-3 impressed elytral striae, cordiform and dorsally very convex pronotum that is but shortly sinuate in front of the projecting basal angles and has a single anterior lateral seta only, and by narrow and elongate, on lower surface rather angulate aedeagus. Distinguished from most closely related *M. minor* Sloane by considerably larger size, more cordiform pronotum, longer antenna, and slightly denser setosity of the left paramere.

Redescription

Measurements. Length: (11.3)13.6-14.5 mm; width: 3.95-5.3 mm. **Ratios.** Length/width of pronotum: 0.95-1.03(1.08); widest diameter/width of base of pronotum: 1.34-1.42; length/width of elytra: 1.56-1.61; width of elytra/pronotum: 1.27-1.40.

Colouration. Black, mouth parts reddish, antenna reddish-piceous except for four basal antennomeres, tarsi reddish-piceous to dark piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, slightly curved. Antenna elongate, median antennomeres 3 x as long as wide.

Pronotum (Figs 22, 32). Rather elongate, moderately cordiform, lateral margins convex to near base, shortly but comparatively gently sinuate in front of base, basal angles rectangular, straight or slightly

produced laterally. A single anterior marginal seta present, located at anterior third. Surface markedly convex. Basal grooves rather shallow, moderately elongate, almost straight to slightly curved.

Elytra (Fig. 22). Comparatively elongate, laterally gently convex but not markedly oviform, moderately incurved towards base. Humeral angle gently angulate. Surface moderately convex. Disk 3-striate, striae moderately impressed and ending about at apical declivity, but 1st stria even less impressed than 2nd and 3rd. Outer striae not or barely indicated. Striae impunctate. Inner three intervals very slightly convex or even almost depressed. Surface with extremely fine and highly superficial, transverse meshes and lines.

Lower surface. Of ordinary shape. Terminal abdominal sternite 4-setose in both sexes.

Legs. Of ordinary shape.

♂ genitalia (Fig. 15). Genital ring rather compact, oval shaped, very slightly asymmetric, rather narrow, with moderately narrow base. Aedeagus very elongate; laterally depressed, markedly sinuate; lower surface sinuate and slightly angulate; widened to the almost straight apex; orificium rather short, situated almost completely on right side, divided in middle by a narrow sclerotized part; apical margin slightly incurved into internal sac at left side, forming a small sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres elongate, slightly more than half as long as aedeagus; left paramere much wider than the right one, with acute, tapering apex, with 3 extremely elongate setae at apex and several shorter setae each above and below apex; right paramere comparatively wide, almost straight, with 3 elongate setae at apex, a few shorter setae above apex and with a series of elongate setae on lower margin in apical half, and a few short setae near base, but with a gap between both groups of setae. Some of the setae on lower margin extremely elongate.

♀ genitalia. Similar to those of *M. cordicollis* n. sp.

Variation. Relative length of pronotum varies to a considerable degree, though shape of pronotum is relatively similar, as well as shape of elytra. In the single exceptionally small specimen the three inner striae are considerably less impressed and the intervals are flat; in another specimen the 4th stria is well impressed in basal third of elytra.

Collecting circumstances. Largely unknown. Labelled specimens sampled at rather high altitude. The extraordinarily small and also otherwise deviating specimen from Eccleston seems to have been collected rather in lowland.

Distribution (Fig. 52). Only recorded from Barrington Tops and immediate vicinity, central eastern New South Wales.

Additional examined material (14 ex.). NSW: 1 ♂, Eccleston, T.G.S. 3.21 (ANIC); 1 ♂, 1 ♀, Barrington Ts. Jan'25 SU zoo Exp / *Meonis semistriatus* Sloane (ANIC); 1 ♂, Barrington Tops, I.1999 Fukinuki (CWB); 1 ♂, 1 ♀, 35BM NSW 100m N of trig tower, Berrico Rd 32:06S, 151:45E Chichester SF RM 940m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray, G. Cassis / K119867-8 (AMS); 1 ♀, 36BG NSW Lumesh Rd, 1.7 km from Mt. Allyn Rd 32:06S, 151:26E Chichester SF 16 970m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray, G. Cassis / K119866 (AMS); 1 ♀, 36BR NSW Lumesh Rd, Mt. Allyn Rd. adj to Mt. Allyn Forest Park (900m ?? of jctn of Mt. Allyn lookout Rd) 32:07S, 151:25E Chichester SF 16 970m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray, G. Cassis / K119865 / *Meonis semistriatus* Sl. det. B. P. Moore 1998 (AMS); 1 ♀, Mt. Allyn, Barrington Tops, Via Salisbury, 8.i.1967. N. S. W. G. Monteith (QMB); 1 ♀, Barrington Tops N.S.Wales H. J. Carter (ANIC); 1 ♀, Barrington Tops N.S.W. 25.xi.63 B. P. Moore / *Meonis semistriatus* Sl. Det. B. P. Moore 69 / *semistriatus* Sl.624. (CBM); 1 ♀, Bar. Tops ♀ 4.500 ft T.G.S. 12.21 (ANIC); 1 ♀, Barrington Tops N.S.W. 23.I.27 T. G. Campbell / K59041 (AMS); 1 ♀, Barrington Tops 12-15 HJC / H. J. Carter Coll. P. 20.4.22. / *Meonis semistriatus* Sl. (NMV).

Relationships. In view of shape and structure of elytra and of male genitalia most closely related to *M. minor* Sloane.

***Meonis minor* Sloane (figs 16, 44, 53)**

SLOANE, 1916: 200, 201; CSIKI 1929: 484; MOORE *et al.* 1987: 152; LORENZ 1998: 224; 2005: 245.

Type specimens. Lectotype (by present designation): ♂, Barrington Tops NSW. 28.12.1915. A. Musgrave. 4600 ft. T.S. / *Meonis minor* Sloane cotype Id. by T. G. Sloane / Paratype (blue)

(ANIC). – Paralectotypes: 1 ♀, Nr. Trig. Stat. Barrington Tops. NSW. 28.12.1915. A. Musgrave. 4600 ft. / Co-Type / *Meonis minor* Sloane mss. Id. by T. G. Sloane / K 37784 / Co-type (blue) *Meonis semistriatus minor* Sl. Det. B. P. Moore 1999 (AMS); 1 ♀, Barrington R. 5200 ft. Brush. ♀ T.G.S. 29.12.15 / *Meonis minor* Sloane cotype Id. by T. G. Sloane / S. 7723 *Meonis minor* Sl Cotype N. S. Wales (SAMA).

Note. Darlington designated one specimen “Holotype” which is inaccurate anyhow, because the type series consists of three specimens and no one has been designated “type” by Sloane himself. But moreover, Darlington choose a specimen that has been most probably collected several years later, because it is dated “12.21”, the label type is different from the three other specimens, and it lacks any determination label of Sloane. So this specimen most probably does not belong to the type series and hence, I have designated another specimen the lectotype.

Moore (MOORE *et al.* 1987) synonymized *M. minor* with *M. semistriatus* Sloane which occurs in the same area, and probably this was the reason for his decision. Although the male genitalia of both species are quite similar in shape and structure but not in size, the specimens available to me show considerable and stabile differences not only in body size, but also in length of antennae and shape of elytral striae. Therefore, I do not believe that all specimens belong to the same species and, since both nominal taxa are sympatric, they cannot be taken for merely subspecies, but are distinct species – if my suggestion is correct. Absolute evidence, however, can be only obtained by observation of intact gene flow between both populations, or by evidence of its complete interruption.

More recently Moore identified specimens as *Meonis semistriatus minor* Sl. thus indicating that *M. minor* should be a subspecies of *M. semistriatus*. In view of the sympatric and probably even syntopic occurrence of both species certainly this is the worst taxonomic decision.

Diagnosis. Small species, characterized by presence of only 2-3 distinct elytral striae, moderately cordiform and dorsally very convex pronotum that is but faintly sinuate in front of the projecting basal angles and has a single anterior lateral seta only, and by narrow and elongate, on lower surface rather angulate aedeagus.

Distinguished from most closely related *M. semistriatus* Sloane by small size, less cordiform pronotum, shorter antenna, and less densely setose left paramere.

R e d e s c r i p t i o n

Measurements. Length: 7.5-9.0 mm; width: 2.7-3.2 mm. Ratios. Length/width of pronotum: 0.97-1.01; widest diameter/width of base of pronotum: 1.30-1.37; length/width of elytra: 1.53-1.60; width of elytra/pronotum: 1.25-1.30.

Colouration. Black, mouth parts reddish, antenna reddish-piceous except for four basal antennomeres, tarsi reddish-piceous to dark piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, slightly curved. Antenna comparatively short, median antennomeres 2 x as long as wide.

Pronotum. Rather elongate, little cordiform, lateral margins gently convex to very close to base, shortly and very gently sinuate in front of base, basal angles rectangular, straight or slightly produced laterally. A single anterior marginal seta present, located at anterior fourth. Surface markedly convex. Basal grooves rather deep, elongate, almost straight.

Elytra (Fig. 44). Comparatively elongate, laterally gently convex to almost parallel, not markedly oviform, little incurved towards base. Humeral angle gently angulate. Surface moderately convex. Disk 3-striate, though 3rd stria sometimes even less impressed than the inner ones. Striae moderately impressed and ending about at apical declivity, in some specimens 1st stria even less impressed than the 2nd. Outer striae not or barely indicated. Striae impunctate or, when feebly impressed, in some parts seemingly punctulate. Inner three intervals barely convex or even depressed. Surface with extremely fine and highly superficial, transverse meshes and lines.

Lower surface. Of ordinary shape. Terminal abdominal sternite 4-setose in both sexes.

Legs. Of ordinary shape.

♂ genitalia (Fig. 16). Genital ring rather compact, oval shaped, very slightly asymmetric, rather narrow, with moderately narrow base. Aedeagus very elongate; laterally depressed, markedly sinuate;

lower surface sinuate and slightly angulate; widened to the almost straight apex; orificium rather short, situated almost completely on right side, divided in middle by a narrow sclerotized part; apical margin slightly incurved into internal sac at left side, forming a small sclerotized plate inside; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex; both parameres elongate, slightly more than half as long as aedeagus; left paramere much wider than the right one, with acute, tapering apex, with 4 extremely elongate setae at apex and one or very few shorter setae each above and below apex; right paramere comparatively short and wide, almost straight, with 4-5 elongate setae at apex, a few shorter setae above apex and with a series of elongate setae on lower margin in apical half, and a few short setae near base, but with a gap between both groups of setae. Some of the setae on lower margin extremely elongate.

♀ genitalia. Similar to those of *M. cordicollis* n. sp.

Collecting circumstances. Largely unknown, two specimens collected by Berlese Extraction from "rainforest leaf litter *Nothofagus* & ferns". Most specimens sampled at high altitude.

Distribution (Fig. 53). Only recorded from Barrington Tops and immediate vicinity, central eastern New South Wales.

Additional examined material (12 ex.). NSW: 1 ♂, Bar. Tops ♂ 4500 ft. T.G.S. 12.21 / Holotype *Meonis minor* Sl. PJD (red) (ANIC); 2 ♂♂, 62CR, W of jct Thunderbolt Track & devils Hole Track 31:54S. 151:28E. Barrington Tops SF 1420m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray, G. Cassis / *Meonis semistriatus minor* Sl. Det. B. P. Moore 1999 (AMS); 1 ♂, 62CM, 0.4 km S along southern Green Gap turnoff 31:56S. 151:26E. Stewarts Brook SF 1460m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray, G. Cassis / *Meonis semistriatus minor* Sl. Det. B. P. Moore 1999 (AMS); 1 ♀, 62BM, Jct Bull Ridge & Barrington Forest Rds 31:52S. 158:05E. Stewarts Brook SF 1440m (NPWS Survey) 4 Feb-9 Apr 1993 M. Gray, G. Cassis / *Meonis semistriatus minor* Sl. Det. B. P. Moore 1999 (AMS); 1 ♂, Eccleston T.G.S. 3.21 ♂ / *Meonis minor* Sl. Id. by T. G. Sloane (SAMA); 2 ♀♀, Eccleston T.G.S. 3.21 (ANIC); 2 ♀♀, 31.54S 151.31E 3 km W Moppy Lookout Barrington Tops S. F. 18 Nov. 1981 T. Weir & A. Calder / Berlesate ANIC 758 (ANIC, CBM); 1 ♂, Eccleston T.G.S. 3.21 / *Meonis semistriatus* Sl.

Id. by T.G. Sloane / F. E. Wilson Collection (NMV); 1 ♀, Barrington Tops Wilson(?) / F. E. Wilson Collection (NMV).

Relationships. In view of shape and structure of elytra and of male genitalia most closely related to *M. semistriatus* Sloane.

Subgenus ***Meonidius*** n. subgen.

Type species. *Meonis uncinatus* n. sp., by present designation.

Diagnosis. Similar to genus diagnosis, but maxillary and labial palpi in males barely widened towards apex and obtuse; pronotum barely cordiform, with wide base; elytra with markedly angulate humerus and rather elongate basal margin; microreticulation of elytra barely recognizable, consisting of extremely fine transverse lines; prosternal process setose; aedeagus with conspicuous, uncinuate apex; orificium situated in middle on upper surface; internal sac with two coarsely denticulate sclerites in anterior half; left paramere short and wide, with oblique apex, asetose; right paramere comparatively short and wide, with setose apex and a fringe of elongate setae along lower margin; female stylomeres as in genus diagnosis.

Etymology. The name refers to the close relationships of the new subgenus to the nominate genus.

Distribution (Fig. 53). A single species consisting of two subspecies that occur in extreme north-eastern New South Wales and adjacent south-eastern Queensland.

Meonis uncinatus n. sp.

This very characteristic species apparently has two subspecies that slightly differ as well in external as in male genital characters.

Diagnosis. Easily distinguished from all other species by the wide, barely cordiform pronotum, remarkably angulate humeri, uncinuate apex of the aedeagus, presence of two strongly denticulate sclerites inside the internal sac, and impilose left paramere.

Relationships. The single species of the subgenus *Meonidius*, in certain external and particularly in male genital characters very different from all other species of the genus.

***Meonis uncinatus uncinatus* n. sp.**

(figs 17, 20, 23, 25, 33, 45, 53)

Type specimens. Holotype: ♂, Mt. Cougal, 500m, Upper Tallebudgera SEQld 19Nov1987 MonteithThompsonCook (QMT123813). – Paratypes: 1 ♂, 1 ♀, Upper Tallebudgera Valley, Below Springbrook, S. E. Qld., 8 Jan – 17 Mar, 1985 Monteith, Cook & Thompson RF Pitfall traps, 550m (CBM, QMB); 1 ♂, Lamington Nat. Park, O'Reilly's, Q. 21.iii.73, R. J. Kohout (ANIC); 1 ♂, National Pk., Q. H. Hacker, Dec. 1919. (unreadable) n. sp. ♂ 19.5.32 (ANIC); 1 ♀, AUST: SEQ 28°16'S, 153°10'E Echo Point, Lamington, 1000m 27 Dec 1991 – 24 Mar 1992 G. Monteith, RF Pitfall (QMB); 1 ♀, 28.13S 153.06E QLD Lamington NP 4 km NW O'Reilly's, Duck Creek Road, 820m, 12 April 1993 D. S. Chandler / Berlesate ANIC 1501 subtr. closed forest rotten wood litter (ANIC); 1 ♂, 1 ♀, National Pk. Queensland R. Illidge (UQIC Reg. #90283/4).

Diagnosis. Distinguished from southern subspecies *M. uncinatus frater* n. ssp. by even less cordiform pronotum, wider, laterally more convex elytra, wider though less deep upper posterior denticulate sclerite of aedeagus, and shorter left paramere bearing a distinctly wider apex.

Description

Measurements. Length: 8.6-10.4 mm; width: 3.05-3.8 mm. **Ratios.** Length/width of pronotum: 0.91-0.97; widest diameter/width of base of pronotum: 1.18-1.25; length/width of elytra: 1.49-1.57; width of elytra/pronotum: 1.24-1.31.

Colouration. Black, mouth parts reddish, antenna reddish-piceous becoming gradually lighter from base, tarsi reddish-piceous.

Head. Of ordinary size and shape. Frontal furrows oblique, slightly curved. Antenna comparatively short, median antennomeres 2 x as long as wide.

Pronotum (Figs 23, 33). Rather elongate, barely cordiform, with very wide base, lateral margins gently convex to close to base, very gently sinuate in front of base, basal angles rectangular, straight. A single anterior marginal seta present, located at or even in front of anterior fourth. Surface rather depressed. Basal grooves deep, elongate, almost straight.

Elytra (Figs 23, 25, 45). Comparatively elongate, laterally gently convex, not markedly oviform, barely incurved towards base. Humeral angle markedly angulate, almost rectangular, basal margin distinct reaching halfway to middle. Surface moderately convex. Disk 3-4-striate, though 4th stria always less impressed than the inner ones, but deeper than the outer ones. Striae complete, but only moderately impressed. Outer striae little indicated. Inner striae, or at least the sutural one, distinctly punctate. Inner three intervals very gently convex or even almost depressed. Surface remarkably glossy, with extremely fine and extremely superficial, transverse lines which are difficult to detect even at high magnification.

Lower surface. Of ordinary shape. Prosternal process setose at apex. Terminal abdominal sternite in male 4-setose, in female 6-setose.

Legs. Of ordinary shape.

♂ genitalia (Fig. 17). Very strongly sclerotized. Genital ring compact, oval shaped, slightly asymmetric, moderately wide, with moderately narrow base. Aedeagus elongate; laterally depressed, markedly sinuate; lower surface sinuate and markedly angulate; widened to the almost uncinat, suddenly down curved apex that is thin and widely rounded at tip; orificium fairly elongate, situated largely on the upper surface; internal sac with a complexly coiled sclerite in middle and an elongate, strongly sclerotized rod at right side that is upturned at apex, also with a very coarsely denticulate sclerite posteriorly at roof that widely projects from internal sac, and with a second denticulate sclerite anteriorly at bottom within the cleft of apex of internal sac; both parameres comparatively short, less than half as long as aedeagus; left paramere much wider than the right one, short and high, with wide, obliquely cut apex, asetose at apex; right paramere very short and wide, almost straight, with membranous apex and remarkably large inner articulation process, with a few short setae at apex and with a series of elongate setae along lower margin but with a gap at the membranous apical part. Some of the setae on lower margin much longer than those at apex.

♀ genitalia (Fig. 20). Very similar to those of *M. cordicollis* n. sp. but comparatively larger and lateral ventro-lateral ensiform seta considerably smaller than median one.

Variation. Apart from some differences in body size and in relative width of pronotum and elytra little variation noted.

C o l l e c t i n g c i r c u m s t a n c e s . Dated specimens were collected in subtropical rain forest at moderate to high elevation. One specimens captured in "pitfall trap", another in "rotten wood litter".

D i s t r i b u t i o n (Fig. 53). Lamington and Springbrook Plateaus, south-eastern Queensland.

E t y m o l o g y . The name refers to the hook-shaped apex of the aedeagus.

***Meonis uncinatus frater* n. ssp.** (figs 18, 53)

T y p e s p e c i m e n s . Holotype: ♂, Australia, NSW 71. Mt. Warning NP, 700m, 27.11.1990, leg. M. Baehr (CBM).

D i a g n o s i s . Distinguished from nominate subspecies by longer though slightly more cordiform pronotum, narrower, laterally barely convex elytra, narrower though deeper upper denticulate sclerite of aedeagus, and longer left paramere bearing a distinctly narrower apex.

D e s c r i p t i o n

Measurements. Length: 7.7 mm; width: 2.8 mm. Ratios. Length/width of pronotum: 1.0; widest diameter/width of base of pronotum: 1.23; length/width of elytra: 1.60; width of elytra/pronotum: 1.27.

Colouration. As in nominate subspecies.

Head. As in nominate subspecies.

Pronotum. As in nominate subspecies, but slightly longer and slightly more cordiform.

Elytra. As in nominate subspecies, but longer and laterally even less convex.

Lower surface. As in nominate subspecies.

Legs. As in nominate subspecies.

♂ genitalia (Fig. 18). As in nominate subspecies, though upper posterior sclerite within internal sac narrower but deeper, left paramere longer and bearing a perceptibly narrower apex, and right paramere shorter and stouter with shorter membranous apex and even larger articulation process.

♀ genitalia. Unknown.

Variation. Unknown.

Collecting circumstances. Sampled from under log in montane rain forest.

Distribution (Fig. 53). Mt. Warning, extreme northern New South Wales. Known only from type locality.

Etymology. The name refers to the close relationship to the nominate subspecies.

REMARKS

Although the genus *Meonis* at present includes 22 taxa, at least the species of the nominate subgenus are very closely related and distinction of well characterized species-groups is difficult. Most striking is the *niger-cordicollis-quinquesulcatus-subconvexus-angustior*-lineage which is characterized by 5-striate elytra, multisetose lateral margin of pronotum, an angulately curved aedeagus with virtually not produced apex, and somewhat sinuate right paramere and rather narrow, sparsely setose left paramere. The other species are very similar in external as well as in male genital characters, and only the *semistriatus-minor*-lineage is slightly more differentiated, being characterized by only 2-3-striate elytra and elongate aedeagus which is rather angulately bent on lower surface. The remaining species are difficult to classify, in particular in view of the lack of males in a couple of species.

The single species of the subgenus *Meonidius* is moderately similar in shape and external morphology to the species of the nominate subgenus, but its male genitalia deviate very much and have little in common with the aedeagi of the species of *Meonis* s. str. Nevertheless both subspecies of *M. uncinatus* occur right within the common range of the nominate subspecies and the origin of this conspicuous species remains quite obscure. In certain aspects the subgenus *Meonidius* is apotypic when compared with the nominate subgenus (e.g. in microstructure of the elytra, shape of aedeagus, sclerites of internal sac, shape and structure of left paramere); in other character states it seems to be rather plesiotypic (e.g. in the longer basal border of the elytra, position of orificium of aedeagus, and shape of the right paramere).

The reduction of elytral striae from 5+ to 2-3 within the nominate subgenus, at the first glance might present a tool for the phylogenetic analysis, but when compared with the distribution of the species, it becomes evident that reduction of striae is not congruent with a geographical gradient, be it in north to south direction or reverse. Future applying of molecular methods may assist in clarifying the situation, provided that material of a sufficient number of species from all species groups and subgenera will be available.

Unfortunately, at present we know extremely little about ecology and ethology of any species, although the very similar structure of head and mouth parts in all species suggests very similar habits, at least as diet and foraging methods are considered.

The closest relative of *Meonis* is the northern genus *Raphetis* Moore that inhabits tropical and subtropical rainforests from Carbine and Atherton Tablelands in the north through Eungella Plateau in mid-eastern Queensland to Lamington Plateau in extreme south-eastern Queensland where it occurs sympatrically with species of the genus *Meonis* (BAEHR 2003). *Raphetis curta* Baehr from Lamington Plateau in many respects certainly is the most plesiotypic species of its genus, whereas the most northerly occurring subspecies of *R. gracilis* Moore are most apotypic. In the genus *Raphetis* hence a clear south to north gradient in terms of increasing apomorphy of a number of character states exists, whereas in *Meonis* such a gradient at present is barely perceptible, if we leave out of consideration the *semistriatus-minor*-lineage from the Barrington Tops area in central eastern New South Wales, which certainly is apomorphic in the structure of its elytra. However, the greatest species diversity of *Meonis* is located in the QLD/NSW border region where species from almost all species groups exist, except for those of the *semistriatus-minor*-lineage.

This distribution pattern hence suggests the QLD/NSW border region as representing the evolution centre of the whole *Meonis-Raphetis*-complex with *Raphetis curta* still being the most plesiotypic species of the whole complex. From here, members of *Raphetis* have colonized the northern tropical rain forest areas of eastern Queensland, while members of *Meonis* probably have enlarged their genus' range south along the Great Dividing Range to the Blue Mountains in central eastern New South Wales.

In contrast to the related genus *Raphetis*, the southern genus *Meonis* has a rather small common range that extends from central eastern New South Wales to south-eastern Queensland. As in *Raphetis*, within this range the respective taxa (species and subspecies) again possess very restricted ranges. Several taxa even occur only on a single tableland or mountain range, and but a few apparently occupy slightly larger ranges. But if these ranges are critically examined, they also are quite restricted, because they usually extend along a rain forest capped mountain range or on a system of more or less connected tablelands.

In view of the still extremely close relationships of most taxa, the genus *Meonis* again is a fine example for an old indigenous Australian faunal element that has been undergone, or still is undergoing, a very recent speciation process which probably was caused by the repeated climatic changes during late glaciation period. These changes, in connection with uplifting of ranges and tablelands along the east coast of Australia, repeatedly caused expansion and withdrawal of rain forest on the tops of Great Dividing Range, thus repeatedly combining and again dissecting the ranges of the taxa of *Meonis*. Hence *Meonis* is a fine example for an old genus in terms of phylogenetic status that was (or still is) undergoing rapid recent evolution and speciation.

MEASUREMENTS AND RATIOS OF THE SPECIES
OF THE GENUS *MEONIS* CASTELNAU

(5- , 4-: 5th or 4th stria incomplete; 5+, 4+, 3+: traces of 6th and 7th, or 5th, or 4th stria(e) present)

	N	number of elytral striae	body length (mm)	ratio length/width pronotum
<i>niger</i>	2	5	10.7-12.1	0.95-0.98
<i>quinesulcatus</i>	6	5	10.0-11.9	0.91-0.97
<i>cordicollis</i>	6	5+	8.0-10.4	0.93-0.99
<i>subconvexus</i>	3	5	12.3-13.1	0.93-0.96
<i>angustior</i>	1	5	12.0	1.0
<i>interruptus</i>	1	5-	15.4	0.98
<i>angusticollis</i>	8	4+	8.3-13.1	1.03-1.05
<i>styx</i>	1	4+	11.8	1.09
<i>convexus convexus</i>	6	4+	11.7-13.8	0.92-1.02
<i>convexus coricudgyi</i>	1	4+	9.7	0.98
<i>magnus</i>	5	4+	17.9-20.5	0.93-1.01
<i>carteri</i>	1	4+	13.8	1.09
<i>ater ater</i>	2	4	10.2-10.8	0.96-0.97
<i>ater bunyanus</i>	6	4	8.6-10.9	0.89-0.94
<i>ater longipennis</i>	1	4	10.6	0.95
<i>ater macleayi</i>	2	4	9.9-10.9	1.0-1.03
<i>ater gloriosus</i>	3	4	11.6-12.2	0.93-0.96
<i>amplicollis</i>	4	4-	(12.1)12.6-13.5	0.91-0.93(0.98)
<i>semistriatus</i>	8	3	(11.3)13.6-14.5	0.95-1.03(1.08)
<i>minor</i>	8	2-3	7.5-9.0	0.97-1.01
<i>uncinatus</i>	8	3+	8.6-10.4	0.91-0.97
<i>uncinatus frater</i>	1	3+	7.7	1.0

	ratio widest diameter/base pronotum	ratio length/width elytra	ratio width elytra/pronotum
<i>niger</i>	1.43	1.46	1.41-1.43
<i>quinqsulcatus</i>	1.35-1.43	1.49-1.56	1.27-1.35
<i>cordicollis</i>	1.34-1.43	1.44-1.49	1.26-1.32
<i>subconvexus</i>	1.40-1.41	1.45-1.50	1.37-1.45
<i>angustior</i>	1.50	1.58	1.33
<i>interruptus</i>	1.44	1.61	1.32
<i>angusticollis</i>	1.40-1.45	1.49-1.58	1.30-1.38
<i>styx</i>	1.51	1.63	1.28
<i>convexus convexus</i>	1.44-1.55	1.55-1.66	1.24-1.30
<i>convexus coricudgyi</i>	1.47	1.63	1.27
<i>magnus</i>	1.36-1.44	1.66-1.70	1.25-1.30(1.39)
<i>carteri</i>	1.27	1.69	1.37
<i>ater ater</i>	1.51-1.53	1.55-1.57	1.31-1.34
<i>ater bunyanus</i>	1.51-1.59	1.49-1.55	1.33-1.34
<i>ater longipennis</i>	1.58	1.65	1.26
<i>ater macleayi</i>	1.52-1.54	1.53-1.56	1.33-1.34
<i>ater gloriosus</i>	1.56-1.61	1.54-1.58	1.28-1.33
<i>amplicollis</i>	1.54-1.59(1.60)	1.51-1.53(1.55)	1.30-1.32
<i>semistriatus</i>	1.34-1.42	1.56-1.61	1.27-1.40
<i>minor</i>	1.30-1.37	1.53-1.60	1.25-1.30
<i>uncinatus</i>	1.18-1.25	1.49-1.57	1.24-1.31
<i>uncinatus frater</i>	1.23	1.60	1.27

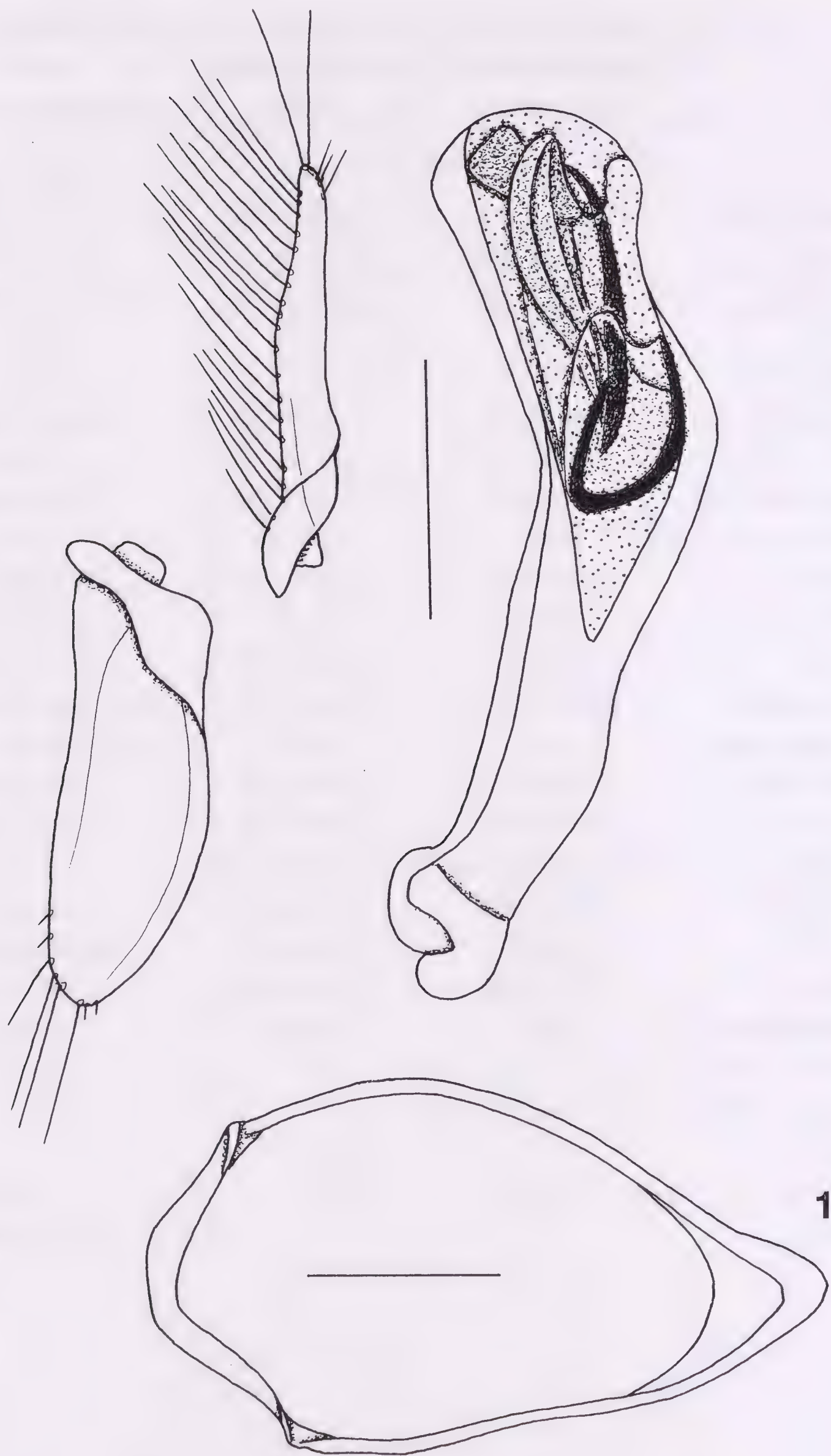


Fig. 1 - *Meonis niger* Castelnau. Male genitalia: aedeagus, parameres, genital ring.
Scales: 0.5 mm.

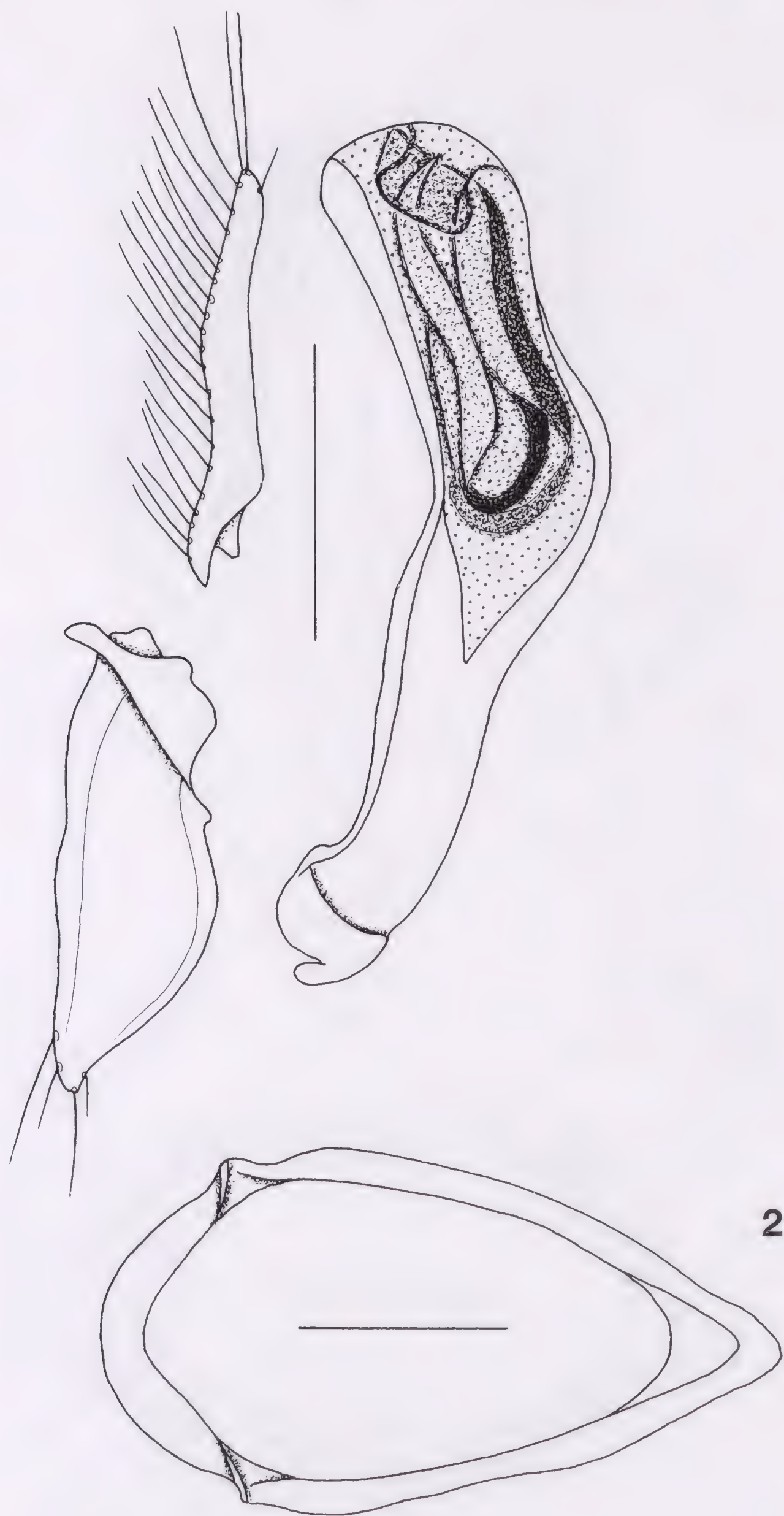
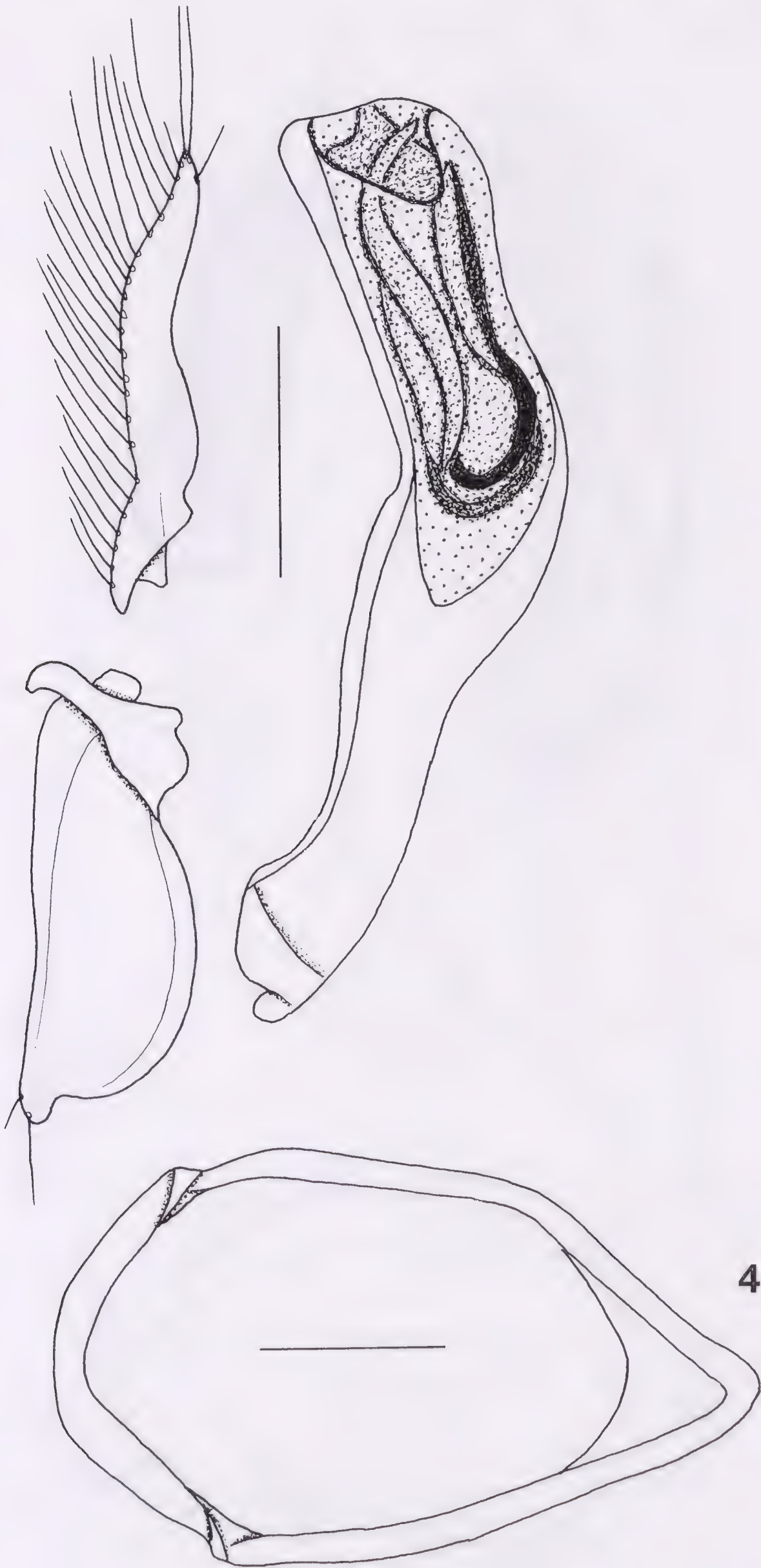


Fig. 2 - *Meonis quinquesusulcatus* n. sp. Male genitalia: aedeagus, parameres, genital ring. Scales: 0.5 mm.



Fig. 3 - *Meonis cordicollis* n. sp. Male genitalia: aedeagus, parameres, genital ring.
Scales: 0.5 mm.



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Fig. 4 - *Meonis subconvexus* n. sp. Male genitalia: aedeagus, parameres, genital ring.
Scales: 0.5 mm.

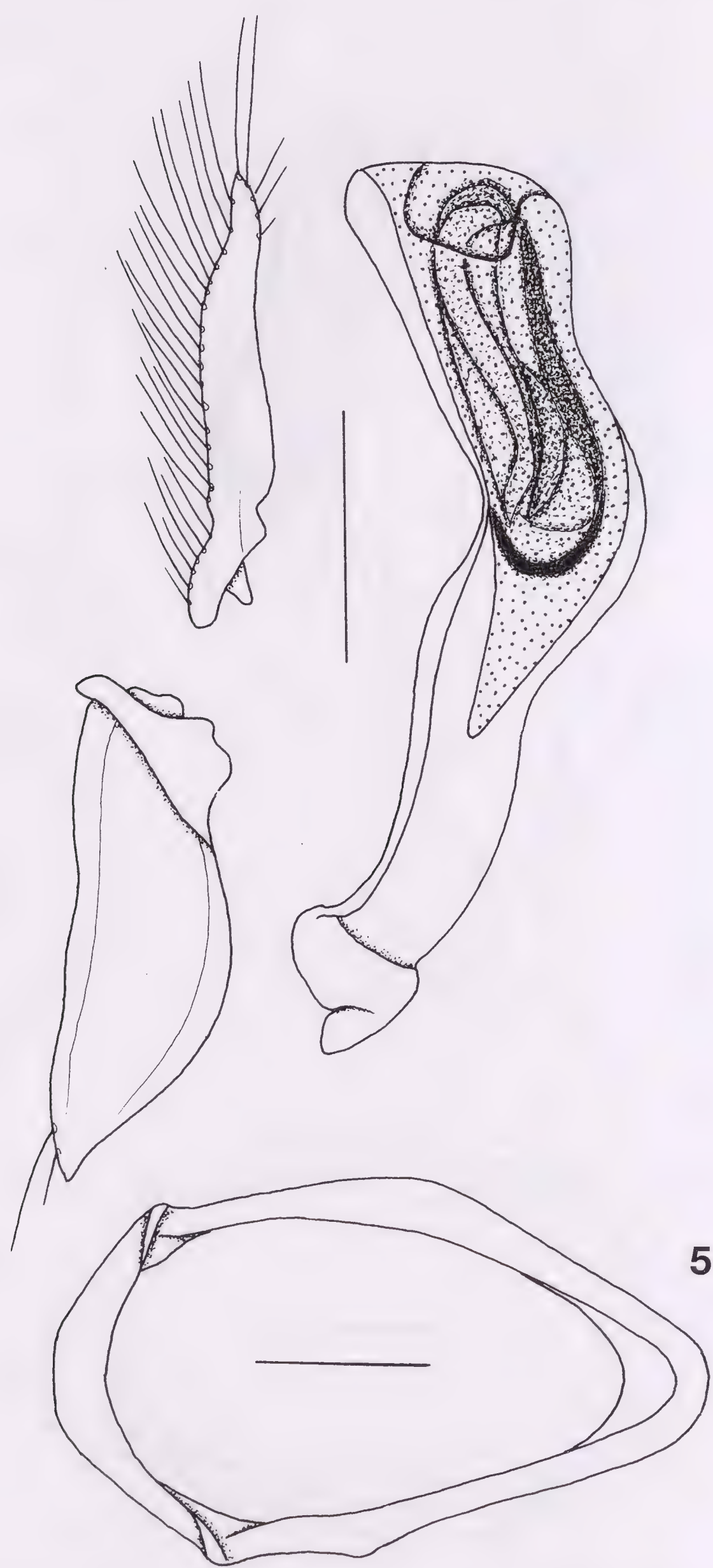


Fig. 5 - *Meonis angustior* n. sp. Male genitalia: aedeagus, parameres, genital ring.
Scales: 0.5 mm.

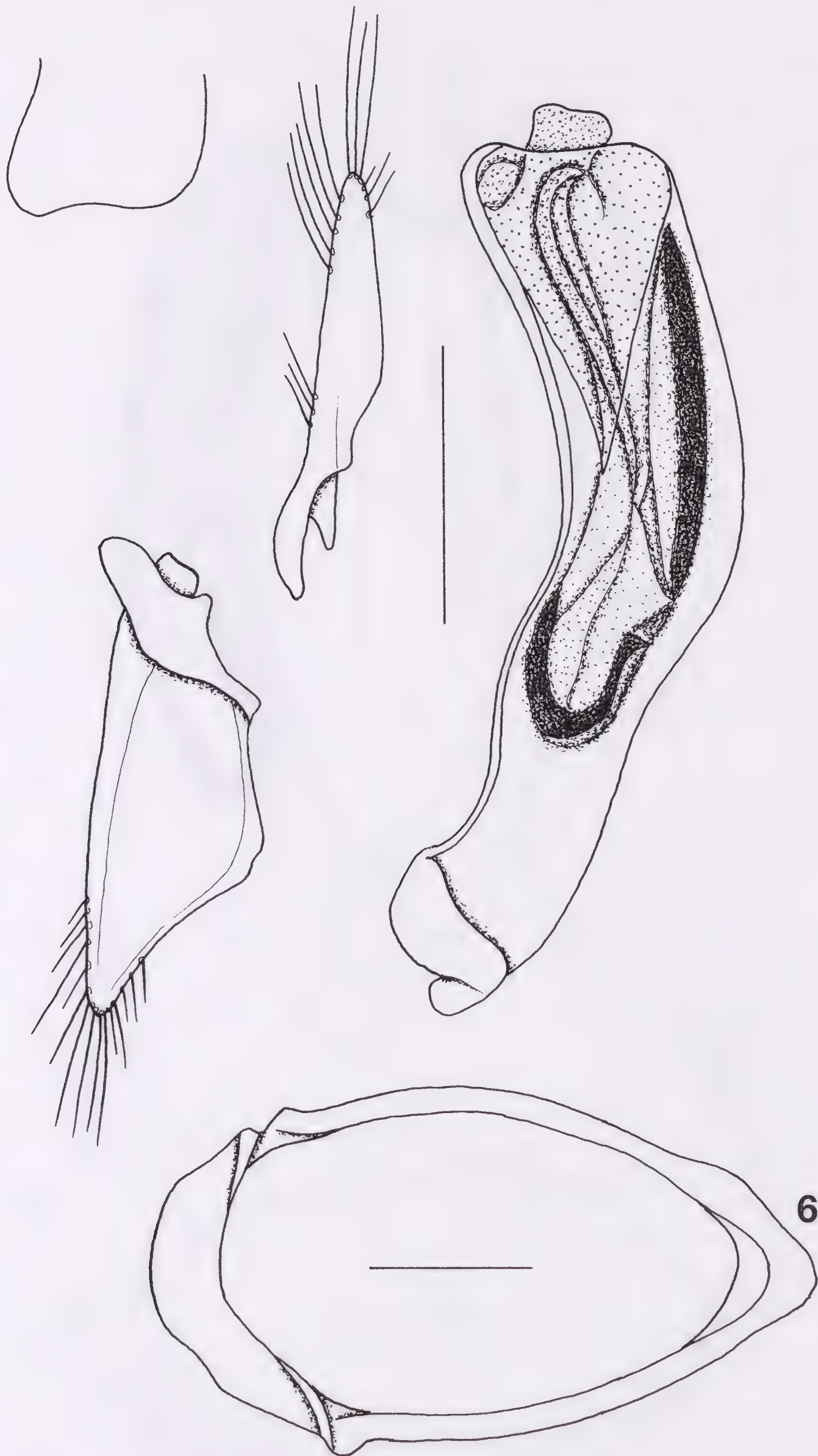
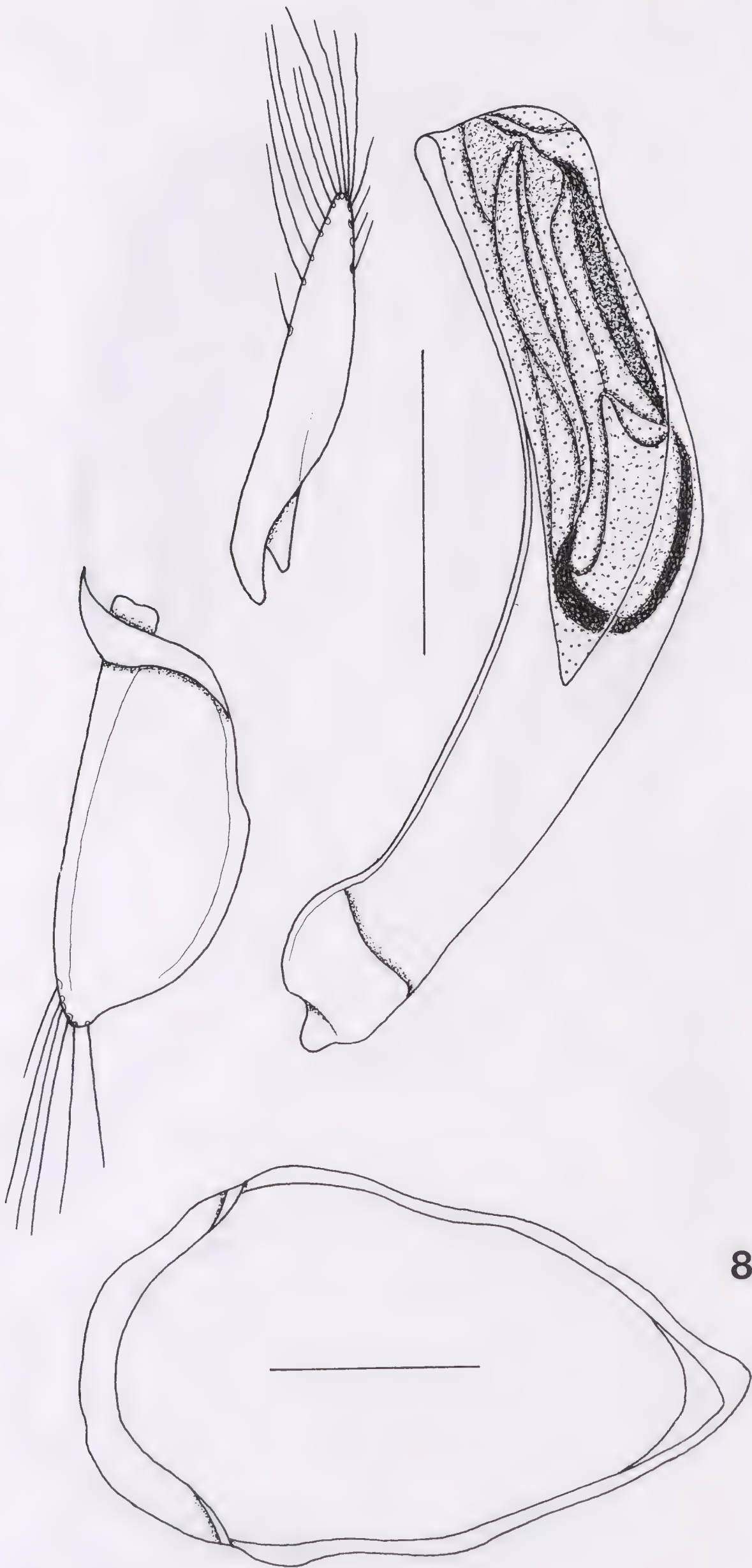


Fig. 6 - *Meonis angusticollis* Sloane. Male genitalia: aedeagus, parameres, genital ring. Scales: 0.5 mm.



Fig. 7 - *Meonis styx* n. sp. Male genitalia: aedeagus, parameres, genital ring. Scales: 0.5 mm.



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Fig. 8 - *M. convexus coricudgyi* n. ssp. Male genitalia: aedeagus, parameres, genital ring. Scales: 0.5 mm.



Fig. 9 - *Meonis magnus* n. sp. Male genitalia: aedeagus, parameres, genital ring.
Scales: 0.5 mm.



Fig. 10 - *Meonis carteri* n. sp. Male genitalia: aedeagus, parameres, genital ring.
Scales: 0.5 mm.

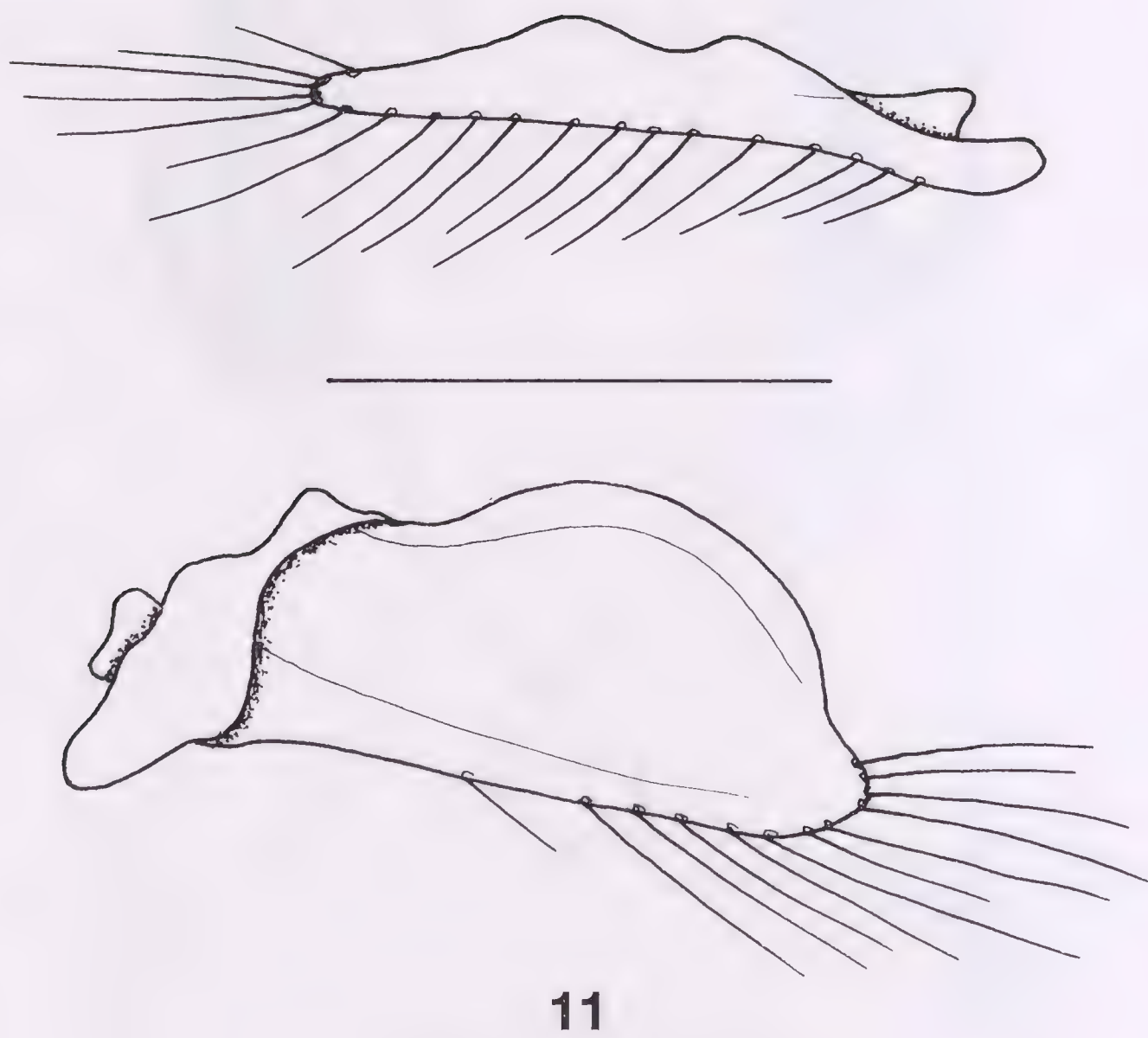
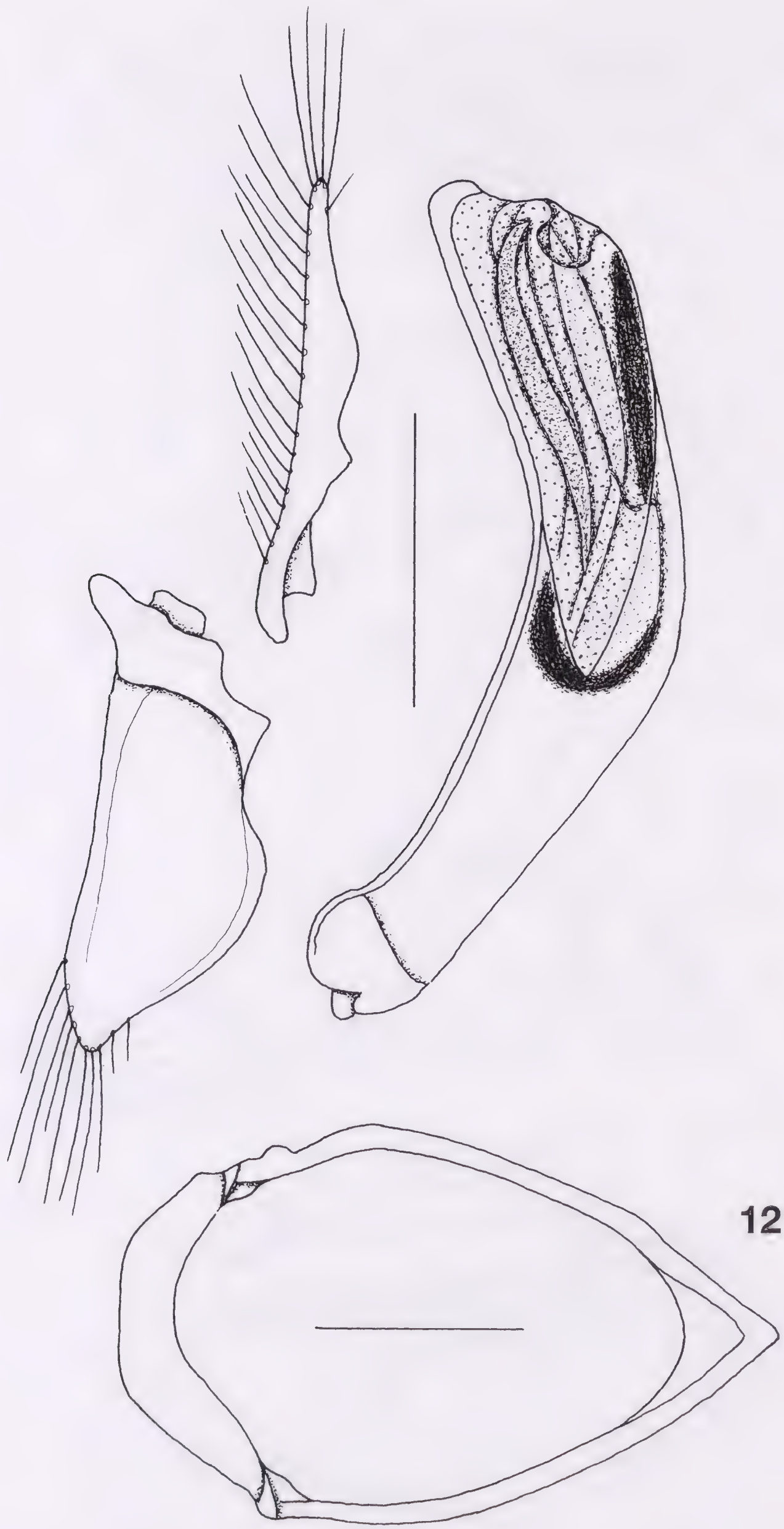
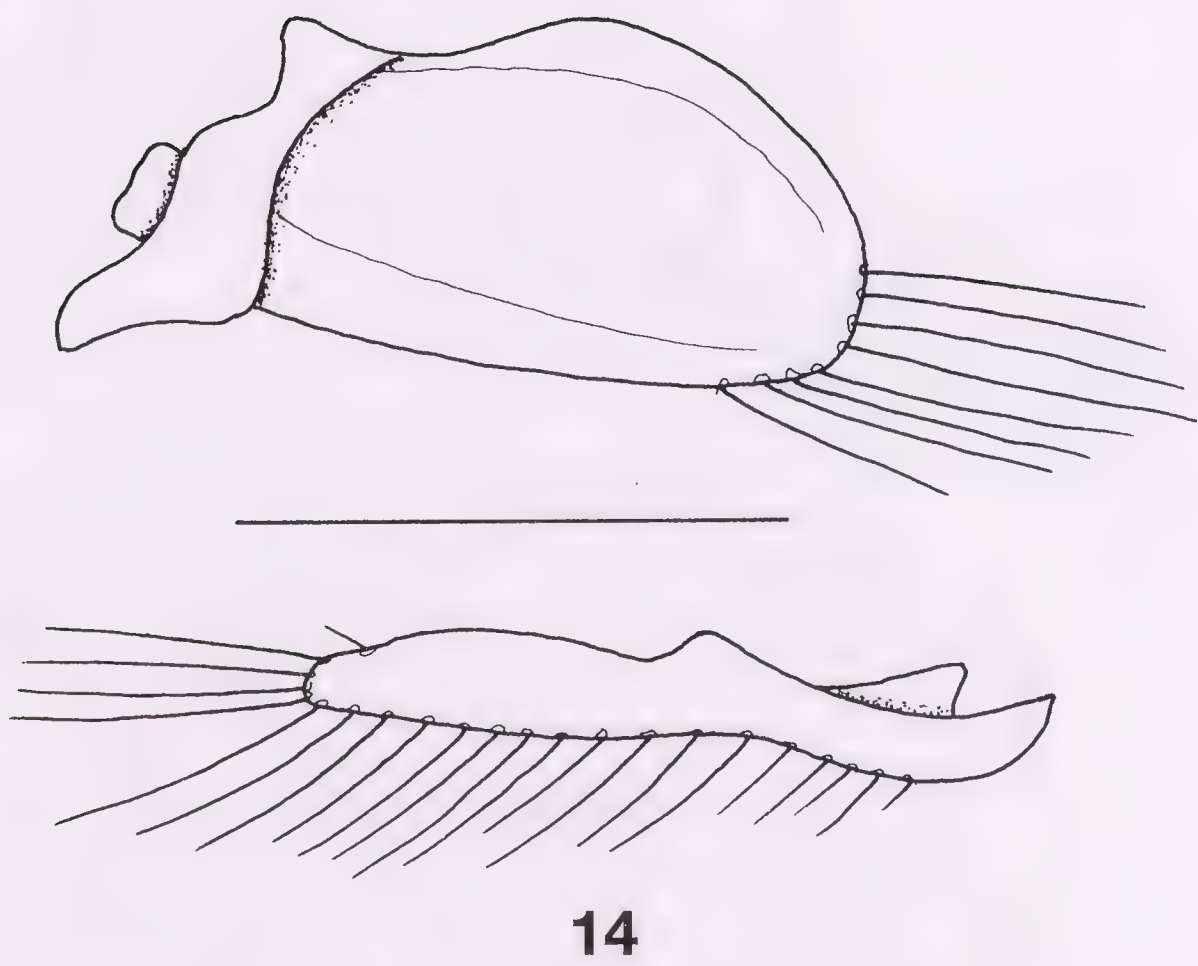
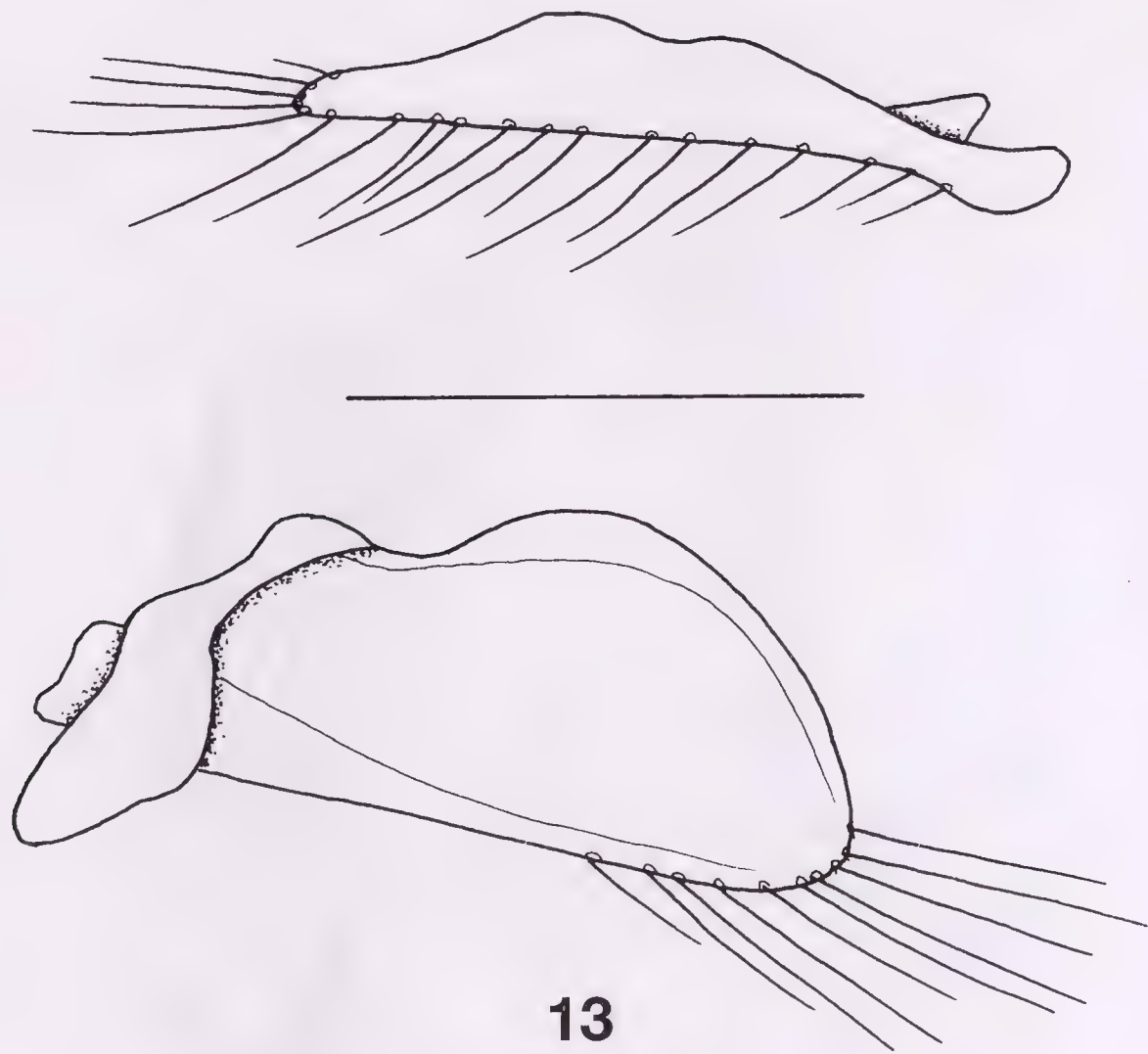


Fig. 11 . *Meonis ater* Castelnau. Male genitalia. *M. ater ater* Castelnau. Parameres.



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Fig. 12 - *M. ater bunyanus* n. ssp. Aedeagus, parameres, genital ring.



Figs 13-14 - 13. *M. ater longipennis* n. ssp. Parameres. 14. *M. ater gloriosus* n. ssp. Parameres. Scales: 0.5 mm.



Fig. 15 - *Meonis semistriatus* Sloane. Male genitalia: aedeagus, parameres, genital ring. Scales: 0.5 mm.

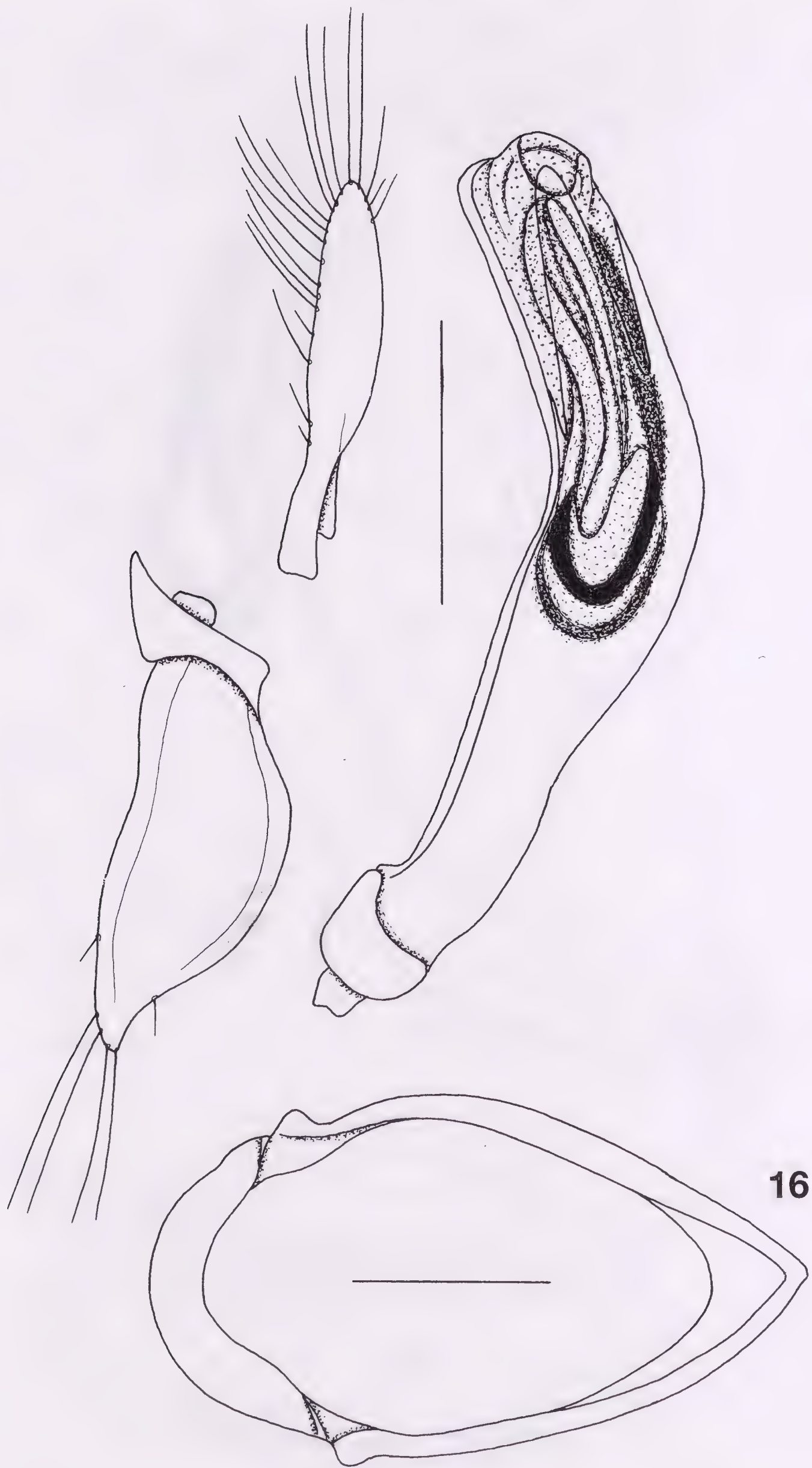


Fig. 16 - *Meonis minor* Sloane. Male genitalia: aedeagus, parameres, genital ring.
Scales: 0.5 mm.

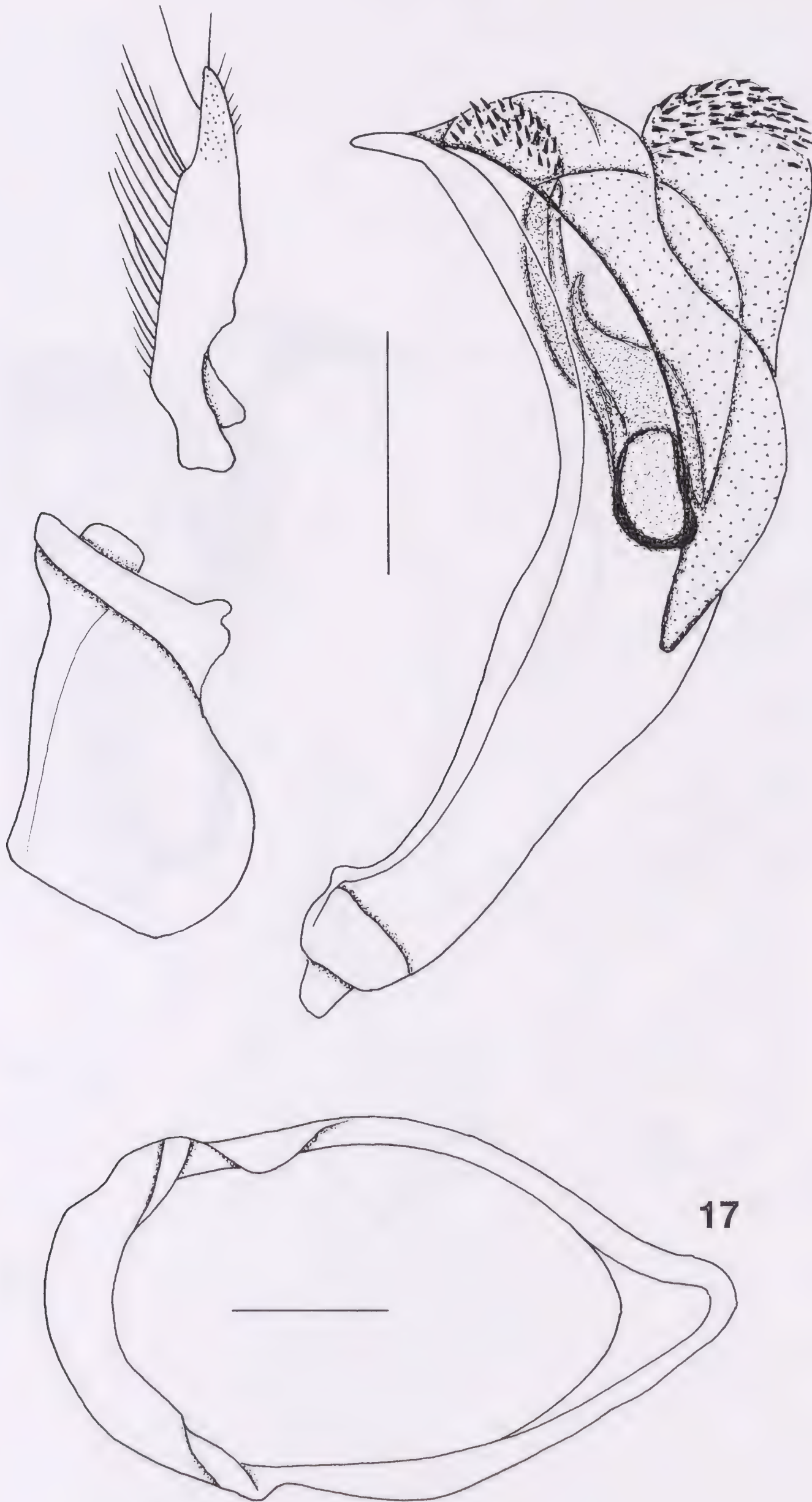


Fig. 17 - *Meonis uncinatus uncinatus* n. sp. Male genitalia: aedeagus, parameres, genital ring. Scales: 0.5 mm.

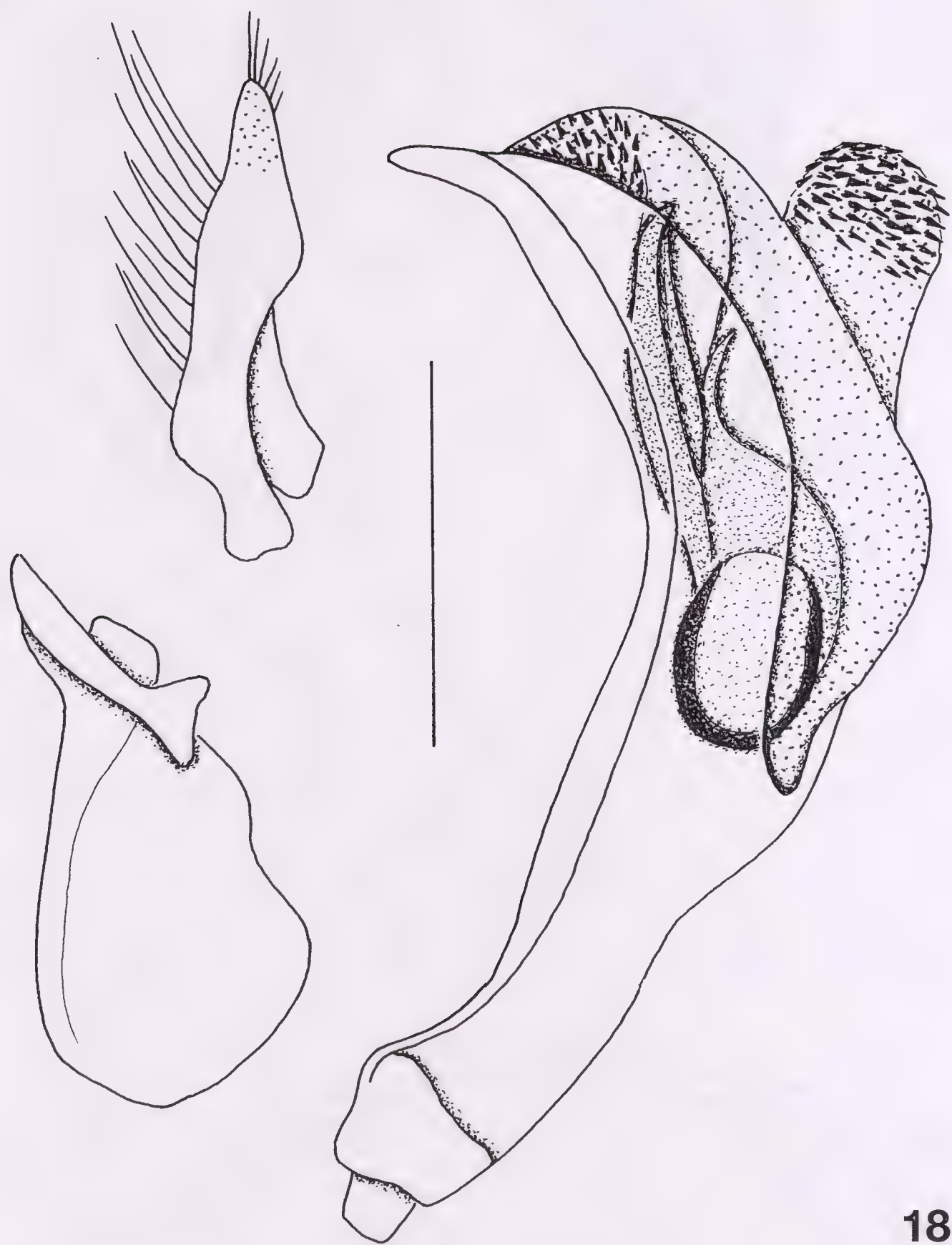
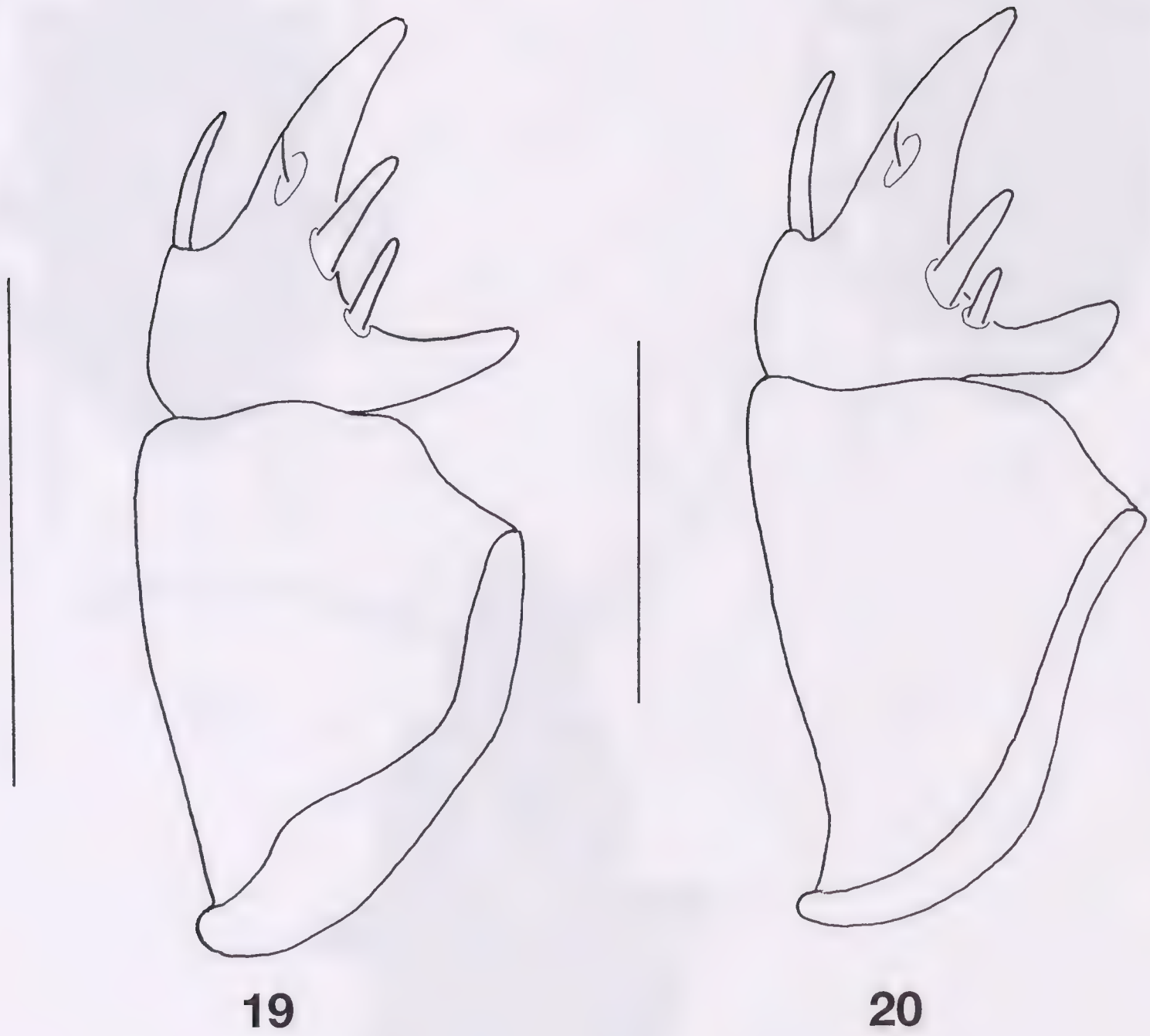


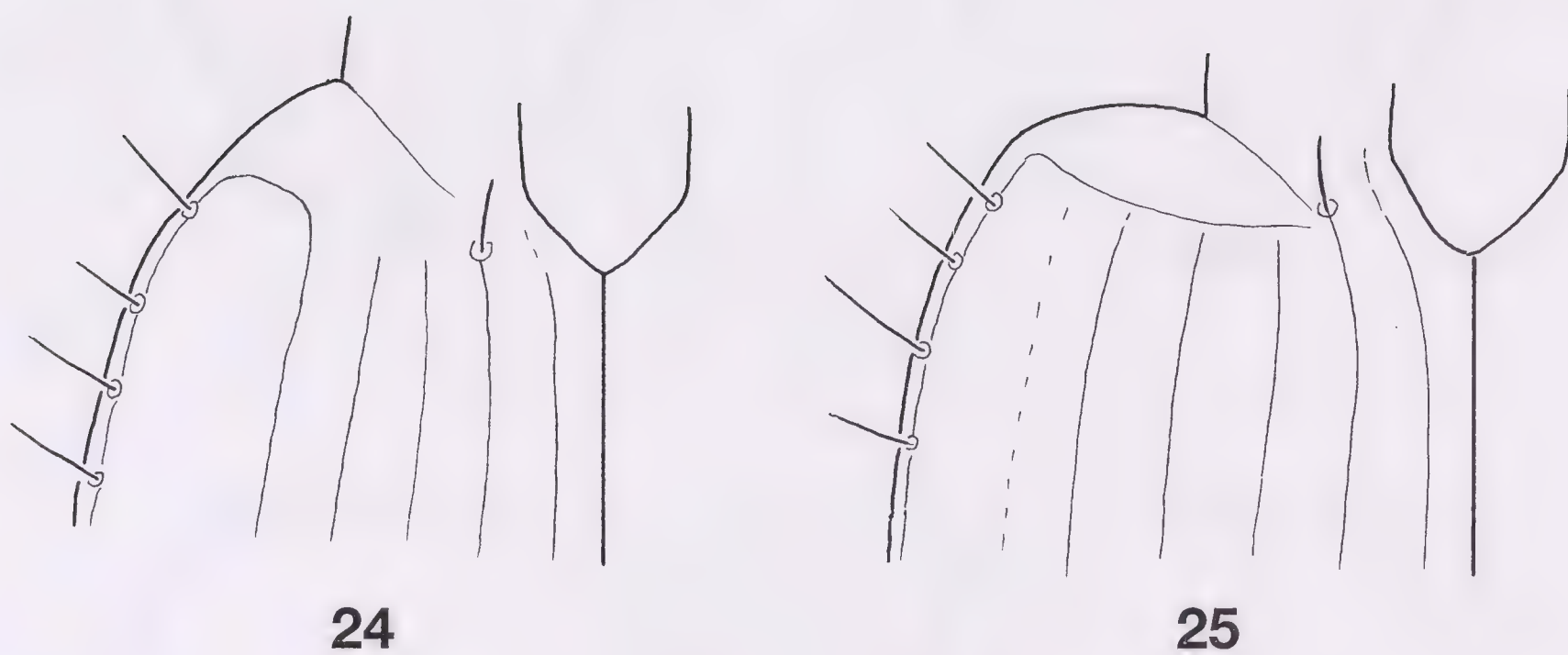
Fig. 18 - *Meonis uncinatus frater* n. ssp. Male genitalia: aedeagus, parameres, genital ring. Scales: 0.5 mm.



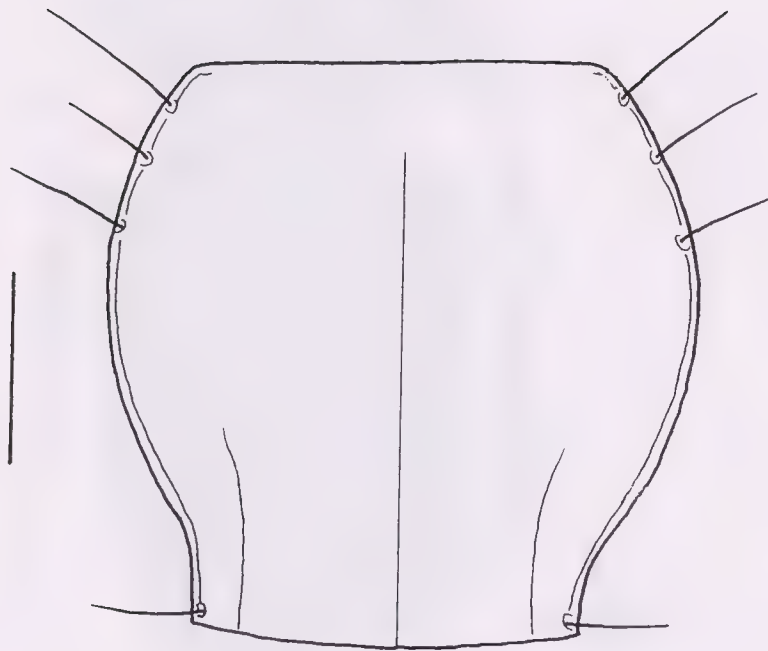
Figs 19-20 - Female stylomeres 1 and 2. 19. *Meonis cordicollis* n. sp. 20. *M. uncinatus uncinatus* n. sp. Scales: 0.2 mm.



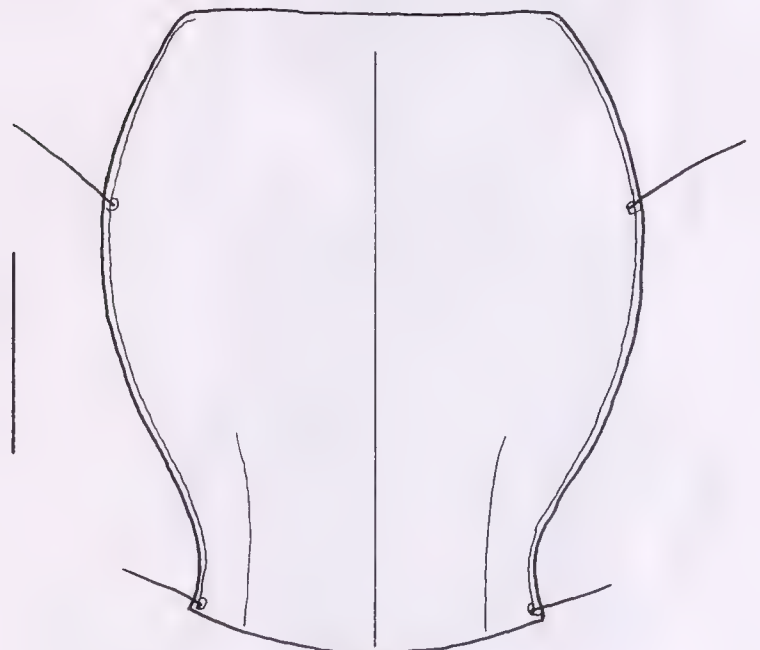
Figs 21-23 - Habitus. 21. *Meonis quinesulcatus* n. sp. 22. *M. semistriatus* Sloane. 23. *M. uncinatus uncinatus* n. sp. Body lengths: 11.4 mm; 14.2 mm; 10.4 mm.



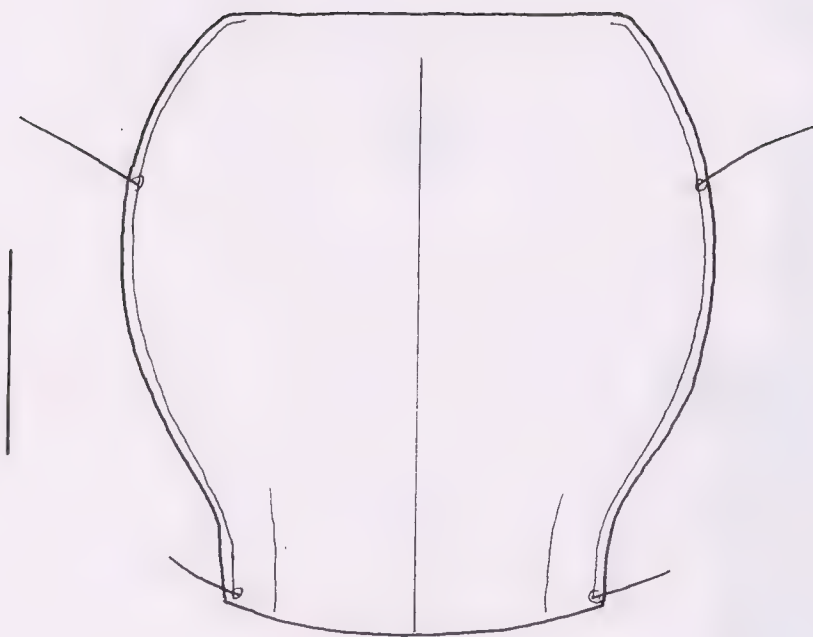
Figs 24-25 - Humerus and base of elytra, 24. *Meonis quinquesusulcatus* n. sp. 25. *M. uncinatus uncinatus* n. sp.



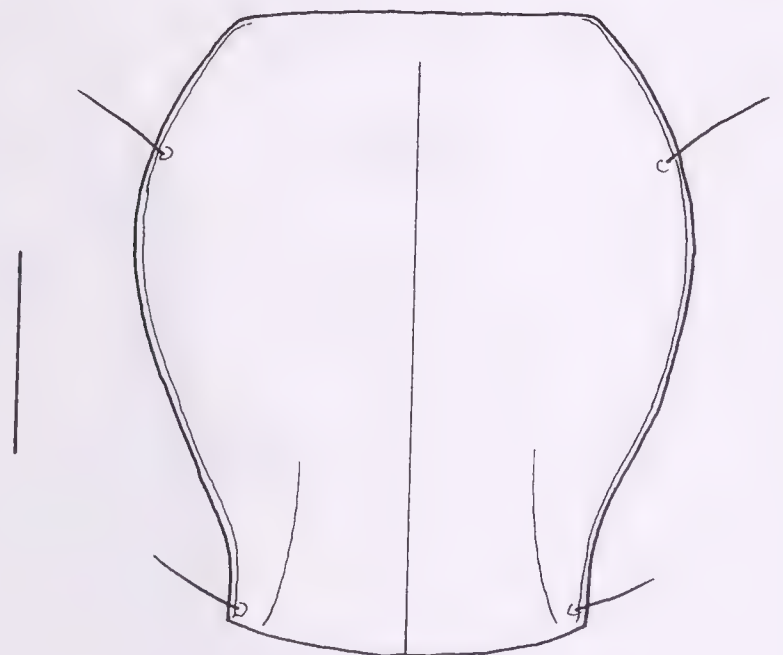
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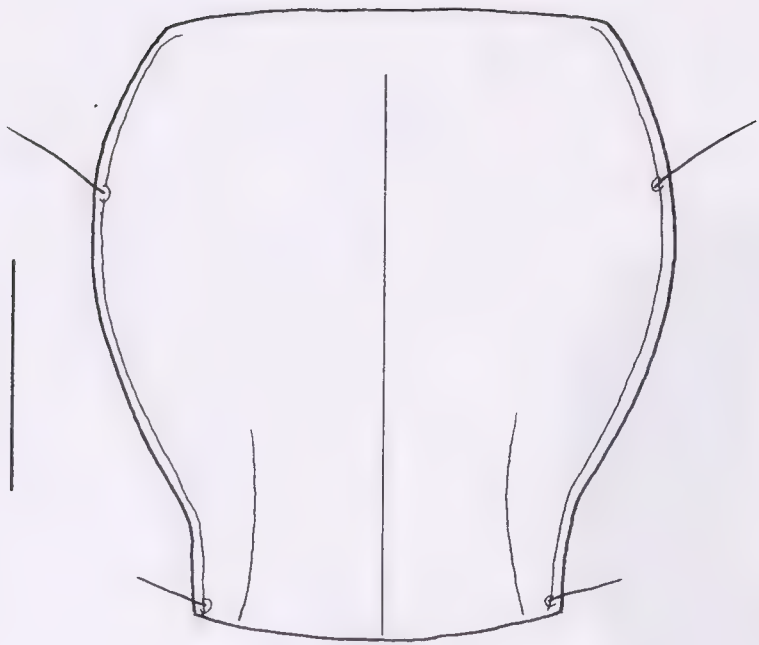


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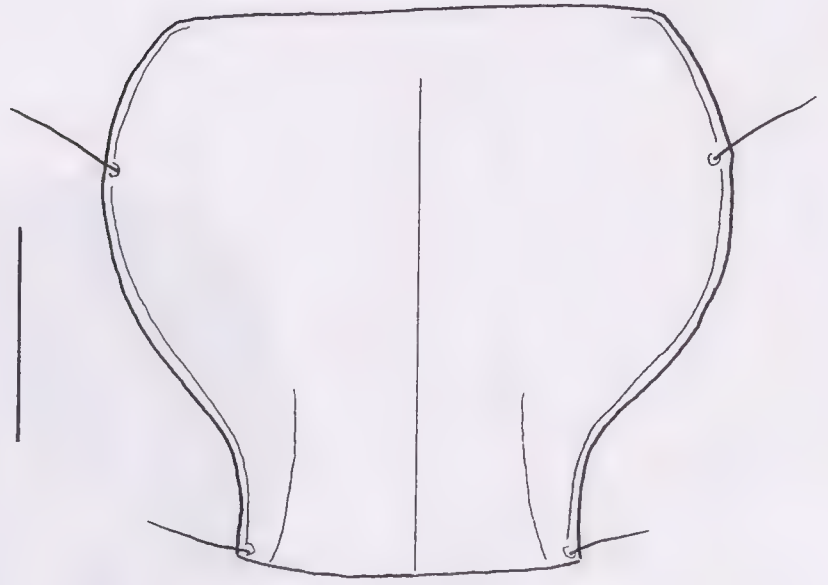


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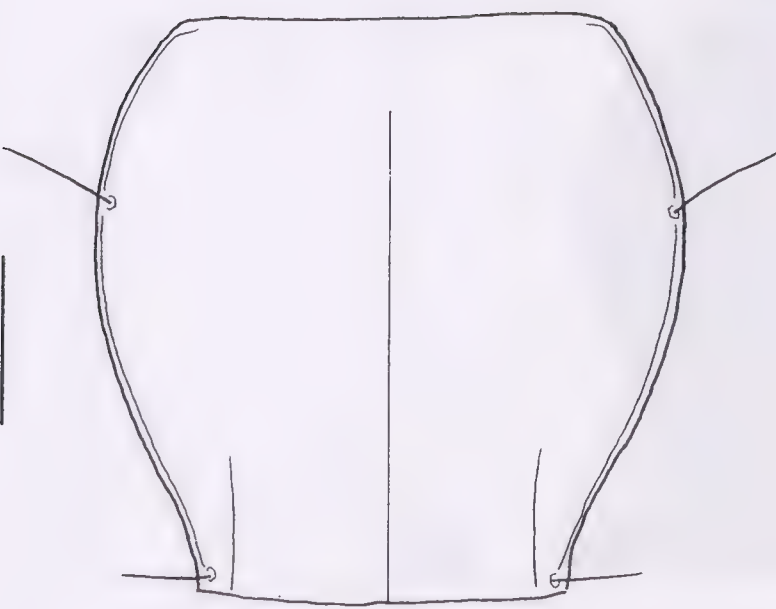
Figs 26-29 - Pronotum. 26. *Meonis quinesulcatus* n. sp. 27. *M. angusticollis* Sloane.
28. *M. styx* n. sp. 29. *M. convexus convexus* Sloane.



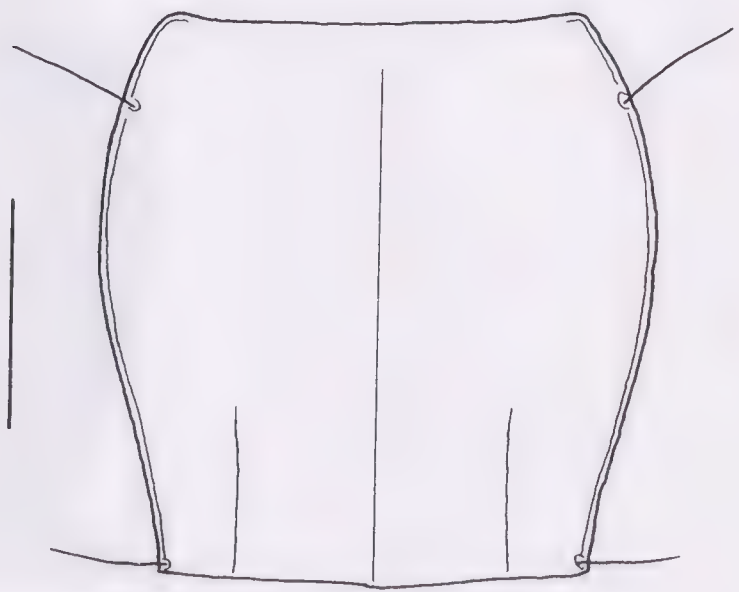
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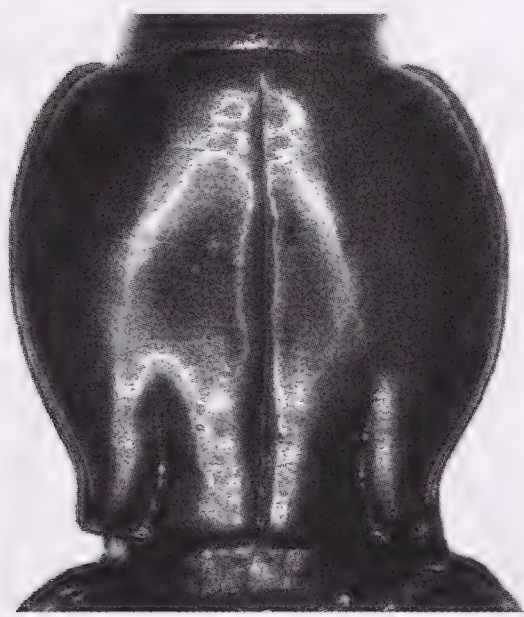


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Figs 30-33 - 30. *M. convexus coricudgyi* n. ssp. 31. *M. ater bunyanus* n. ssp. 32. *M. semistriatus* Sloane. 33. *M. uncinatus uncinatus* n. sp. Scales: 1 mm.

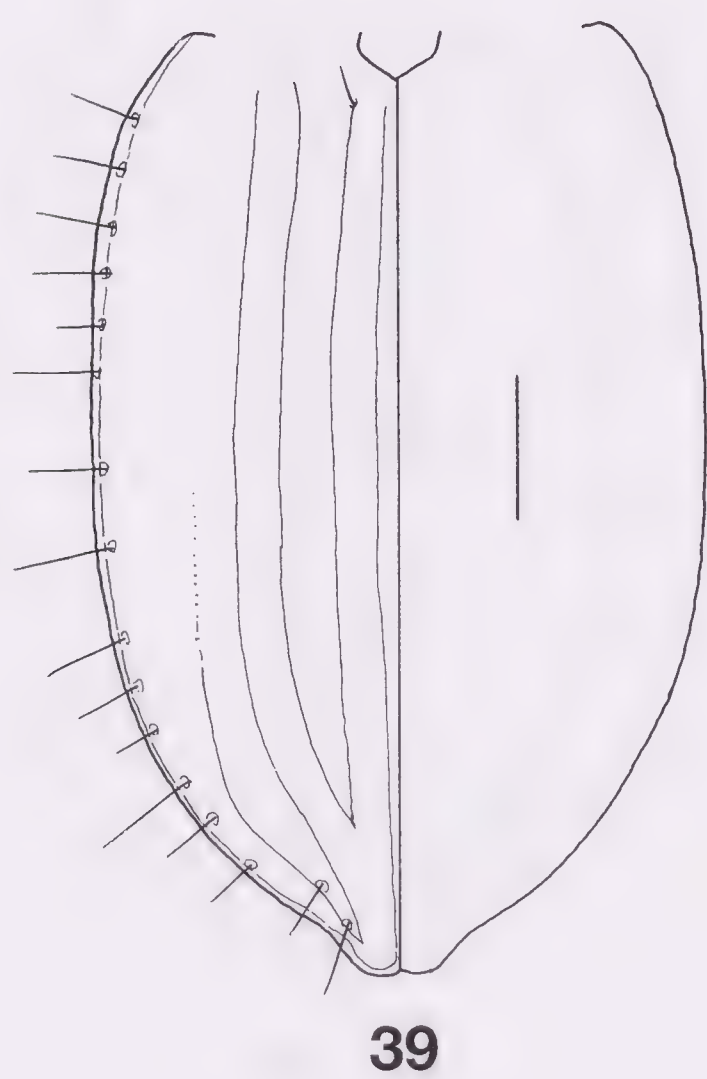
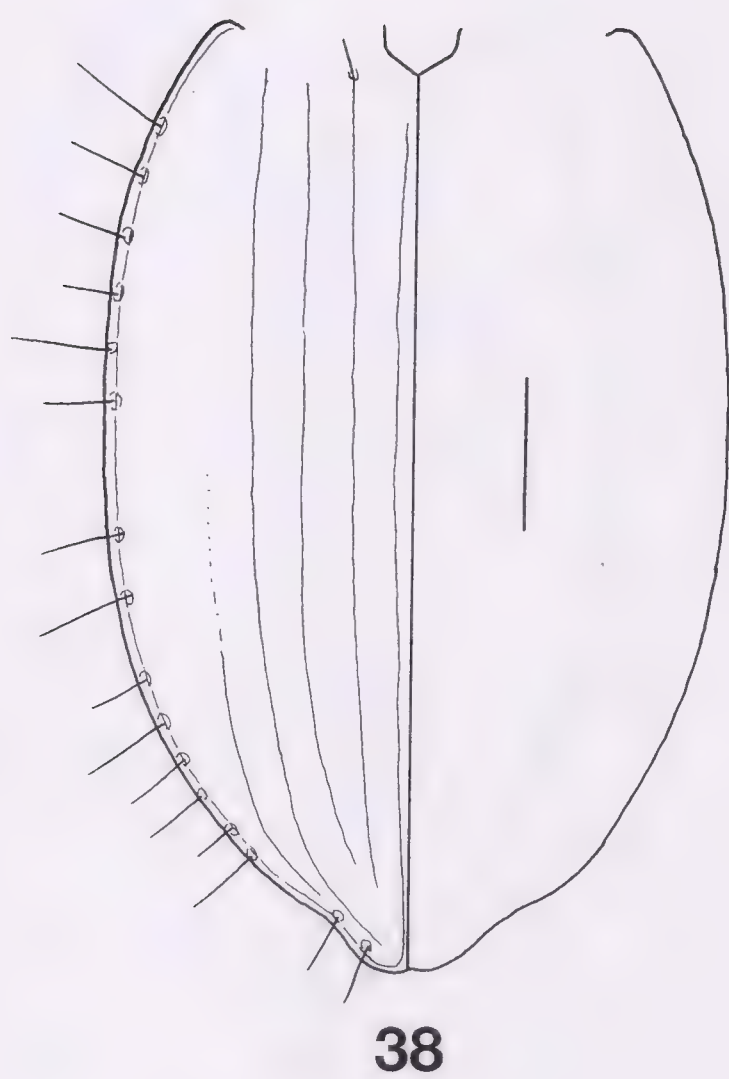
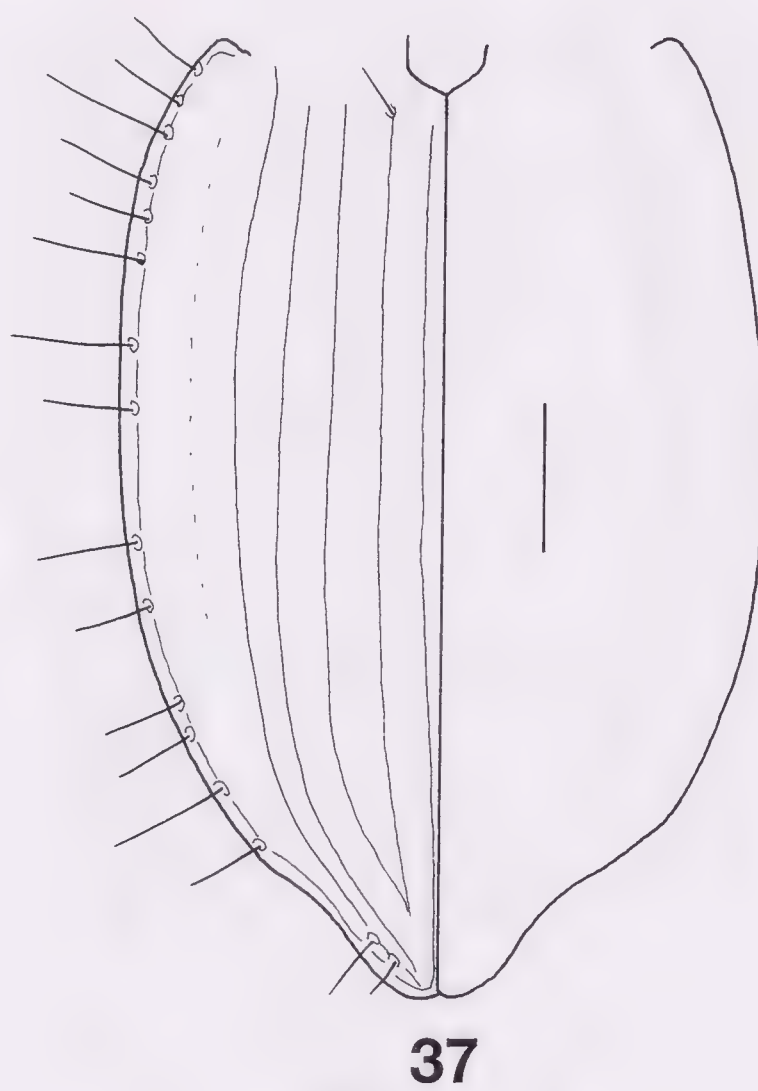
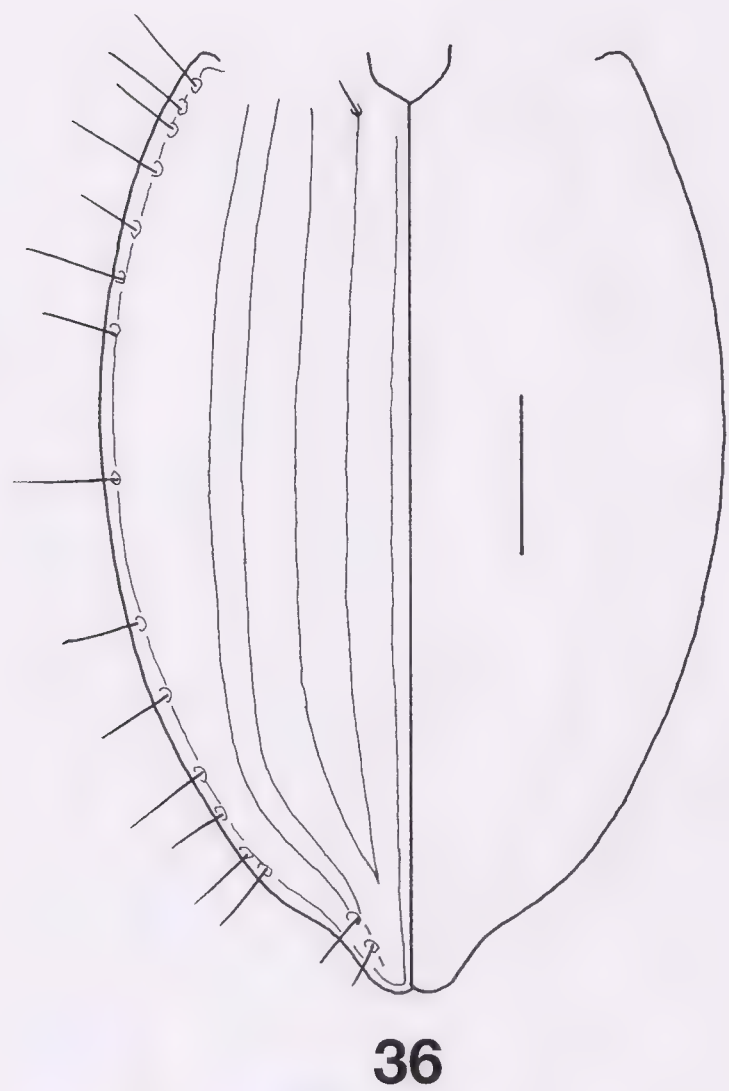


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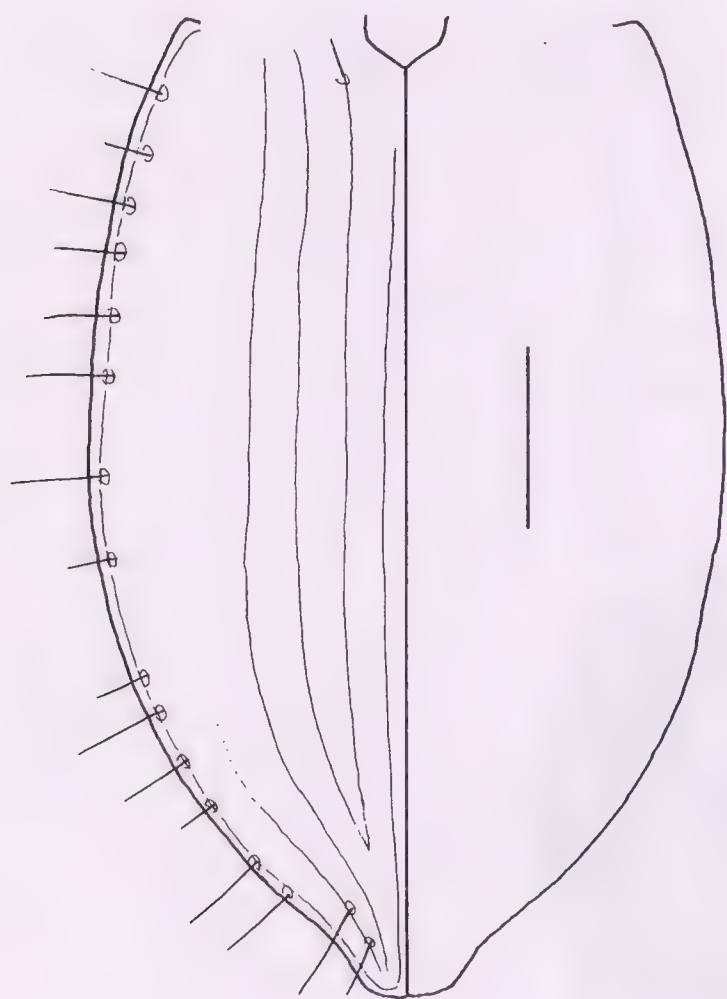


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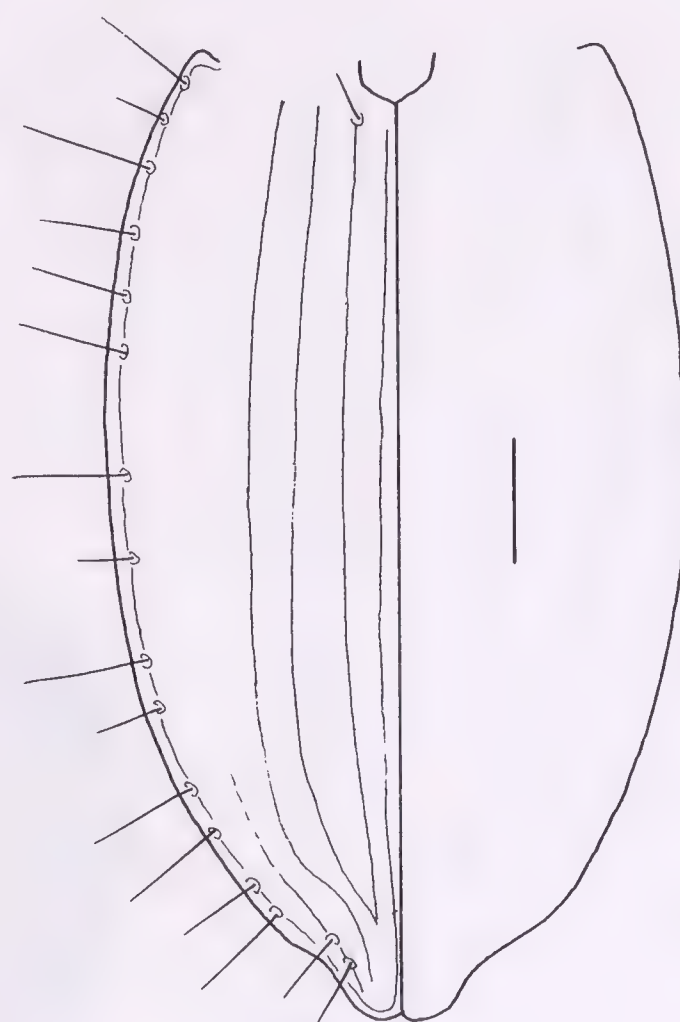
Figs 34-35 - Pronotum, basal grooves. 34. *Meonis subconvexus* n. sp. 35. *M. angustior* n. sp.



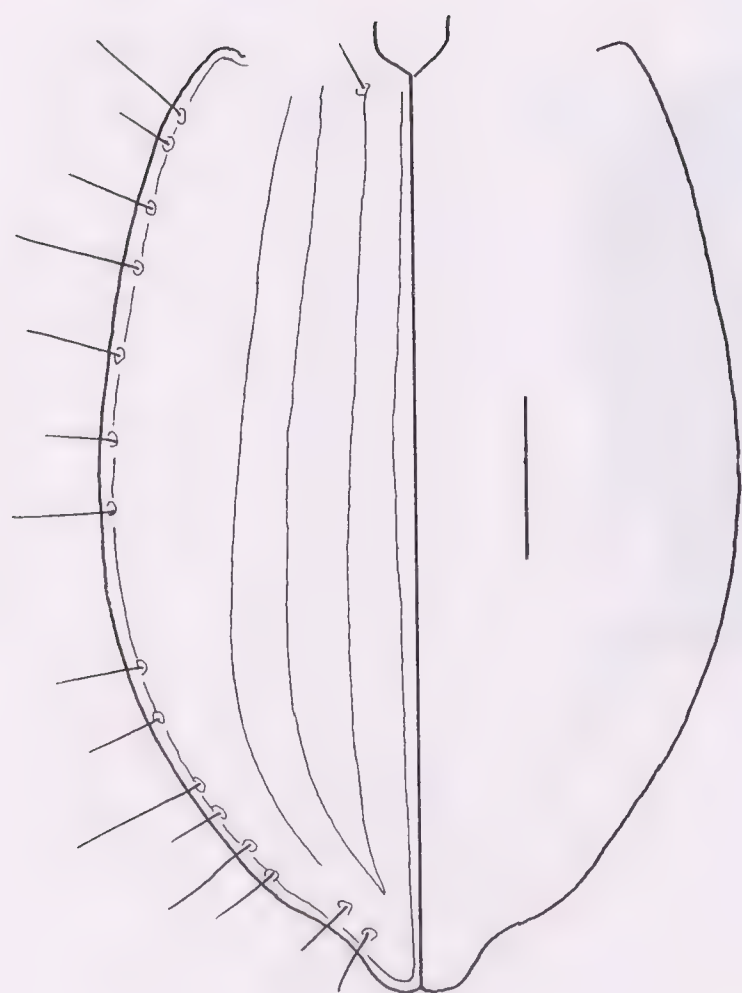
Figs 36-39 - Elytra. 36. *Meonis niger* Castelnau. 37. *M. quinesulcatus* n. sp. 38. *Meonis angusticollis* Sloane. 39 *M. convexus convexus* Sloane.



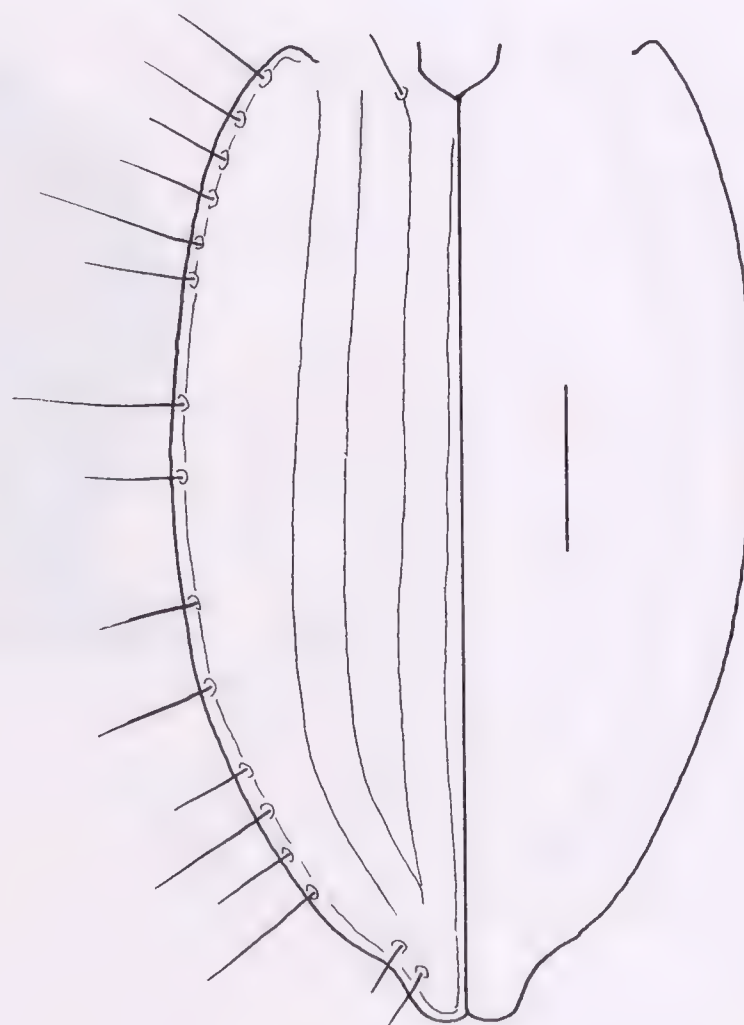
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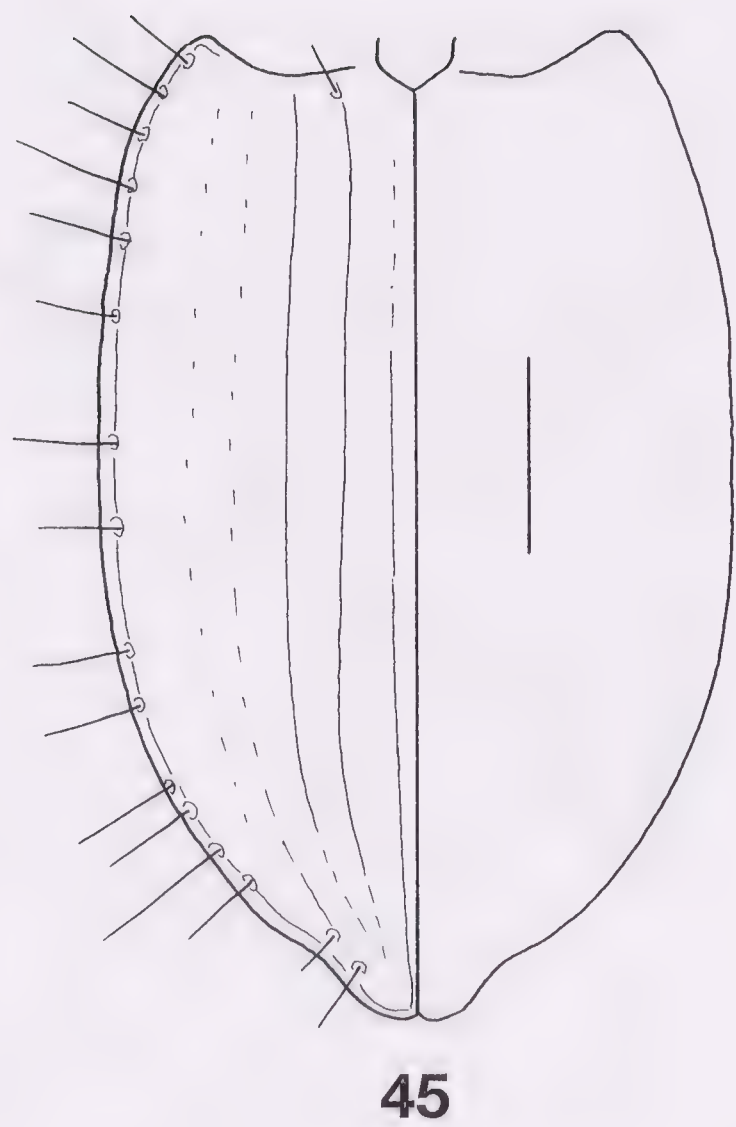
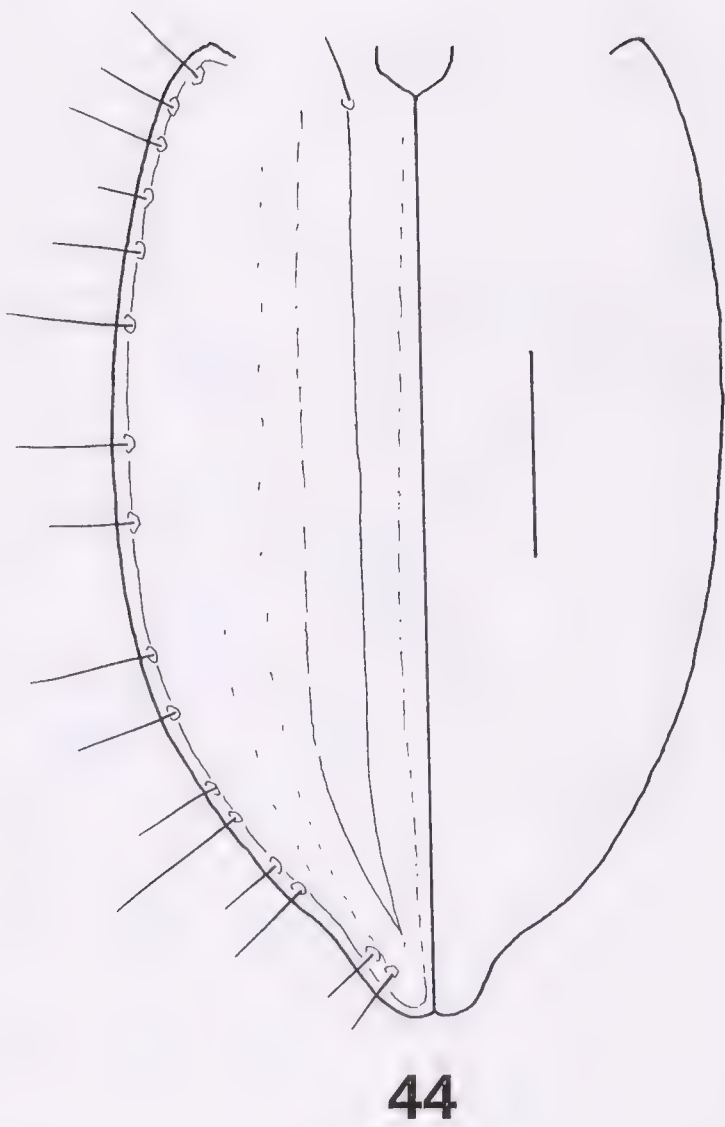


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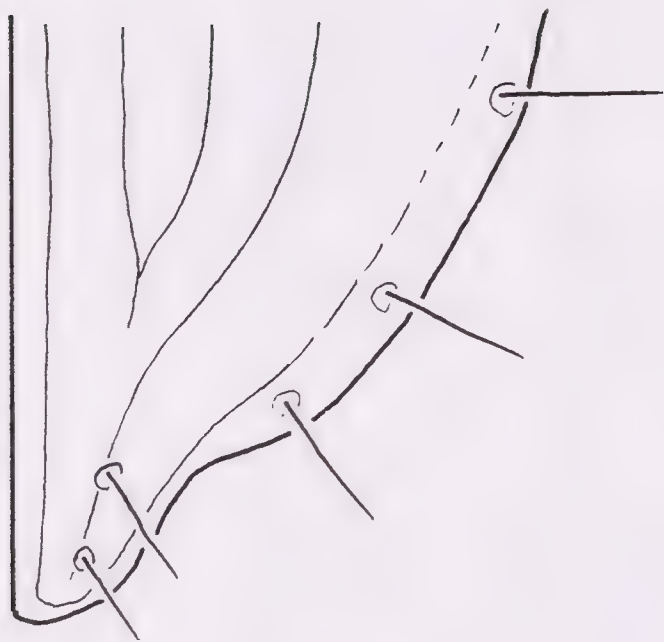


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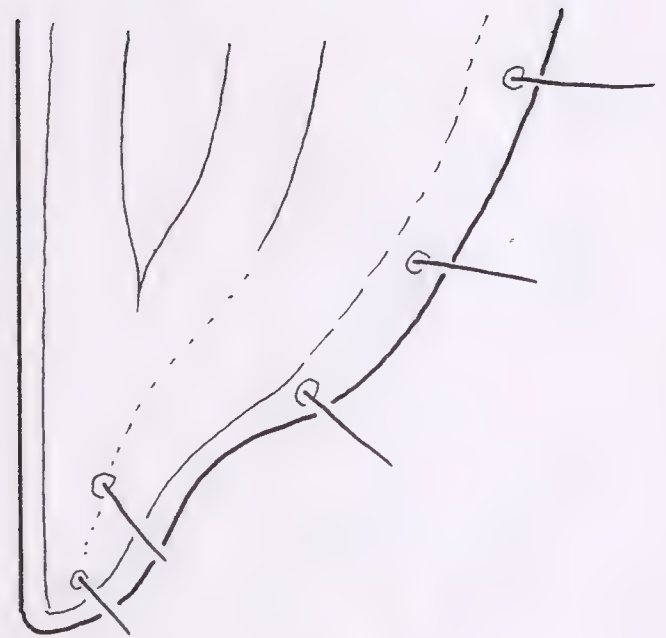
Figs 40-43 - 40. *M. convexus coricudgyi* n. ssp. 41. *M. carteri* n. sp. 42. *M. ater bunyanus* n. ssp. 43. *M. ater longipennis* n. ssp.



Figs 44-45 - 44. *M. minor* Sloane. 45. *M. uncinatus uncinatus* n. sp. Scales: 1 mm.



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Figs 46-47 - Apex of elytra. 46. *Meonis ater bunyanus* n. ssp. 47. *M. amplicollis* Sloane.

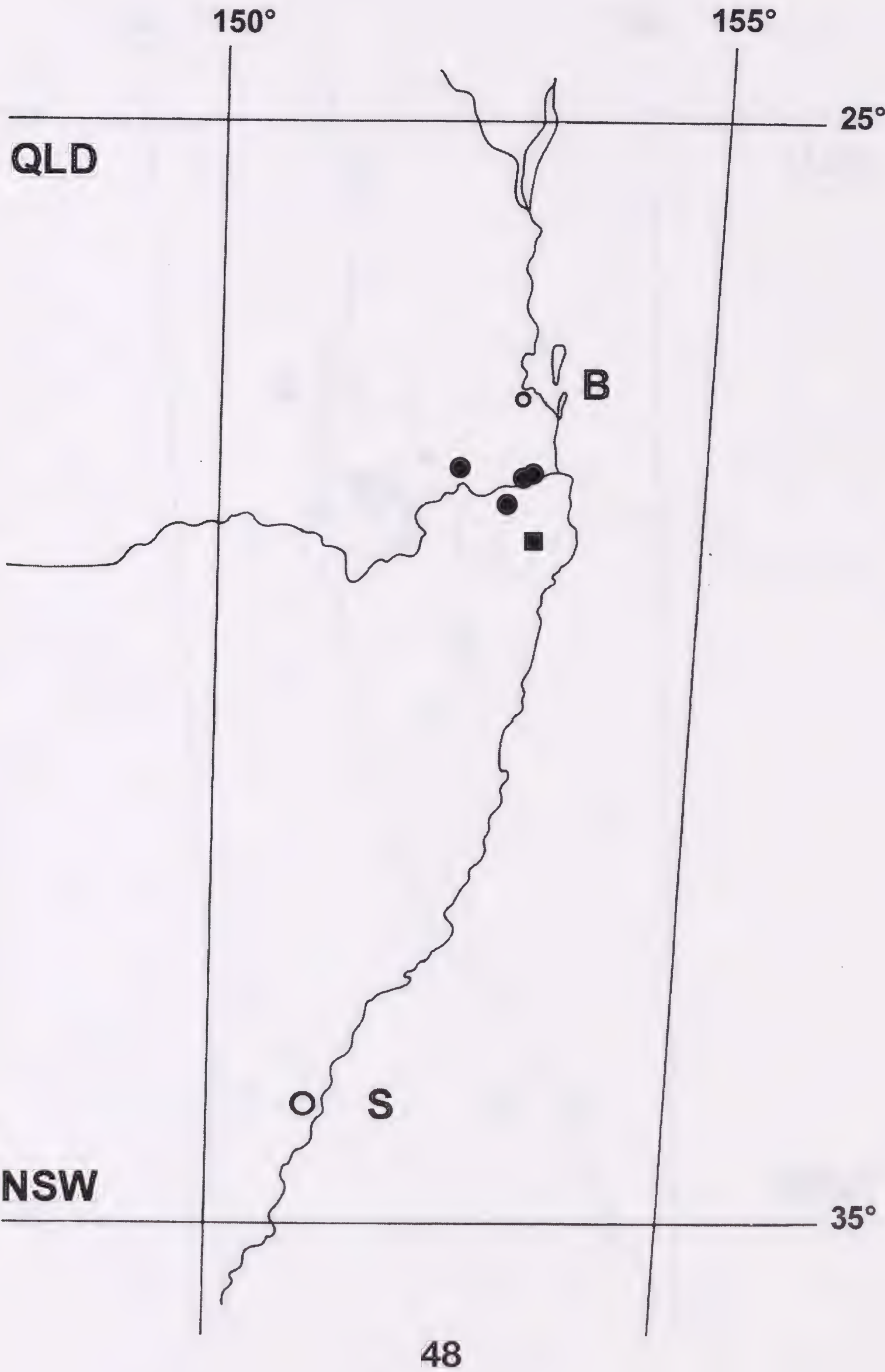


Fig. 48 - Distribution. *Meonis niger* Castelnau: ■; *M. quinesulcatus* n. sp.: ●.

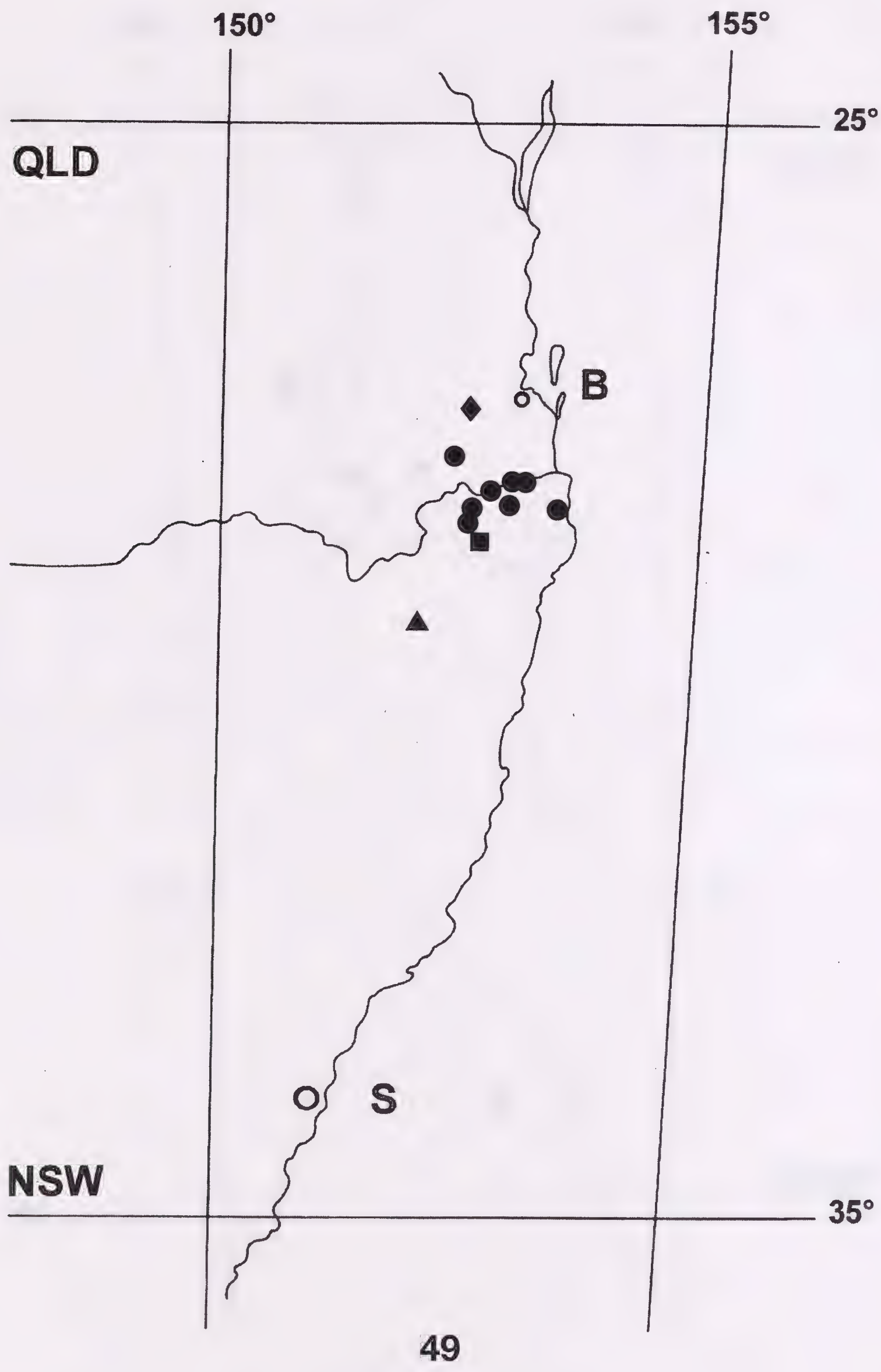


Fig. 49 - Distribution. *Meonis cordicollis* n. sp.: ●; *M. subconvexus* n. sp.: ■; *M. angustior* n. sp.: ◆; *M. interruptus* n. sp.: ▲.

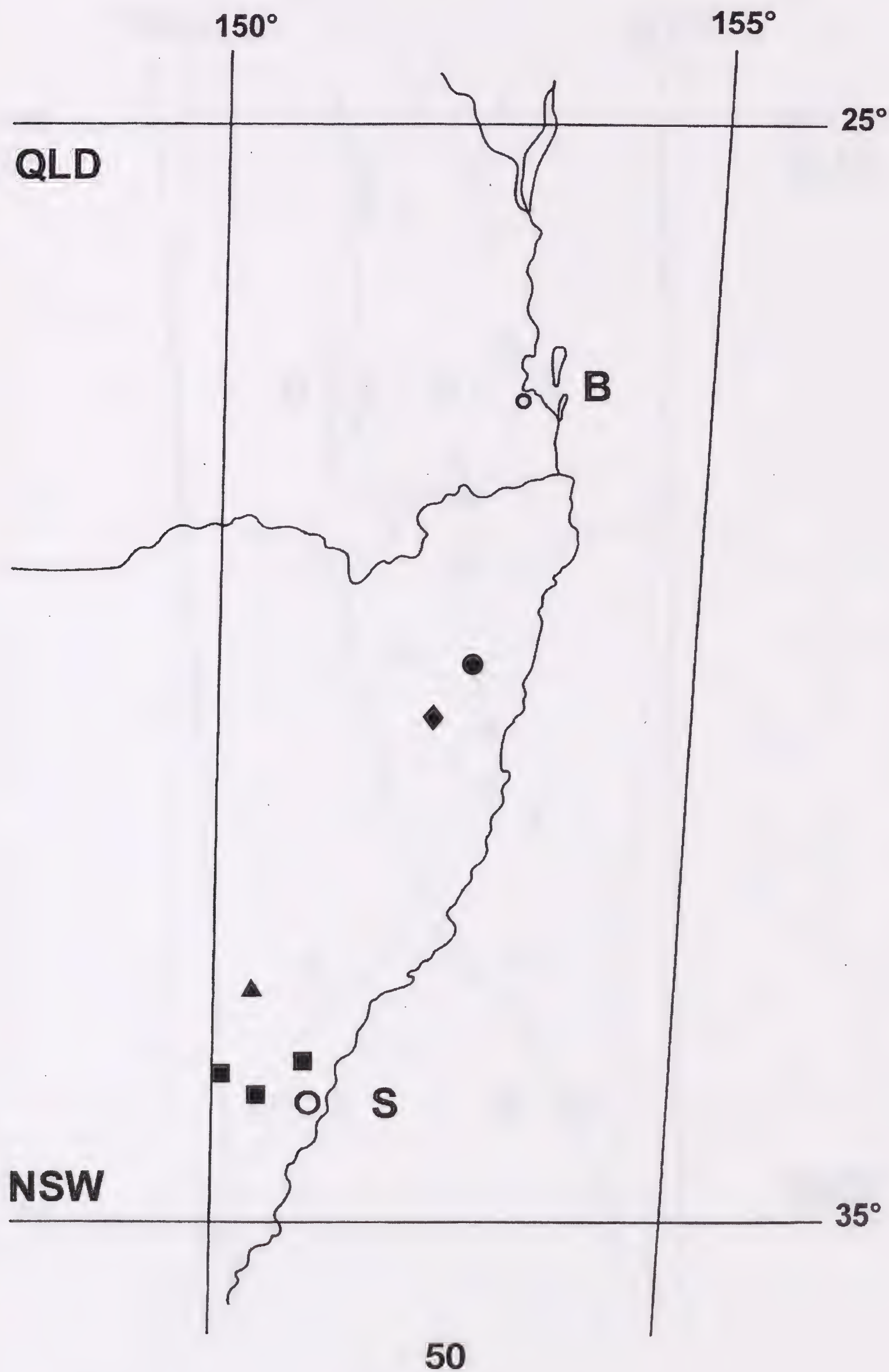


Fig. 50 - Distribution. *Meonis angusticollis* Sloane: ●; *M. styx* n. sp.: ◆; *M. convexus convexus* Sloane: ■; *M. convexus coricudgyi* n. ssp.: ▲.

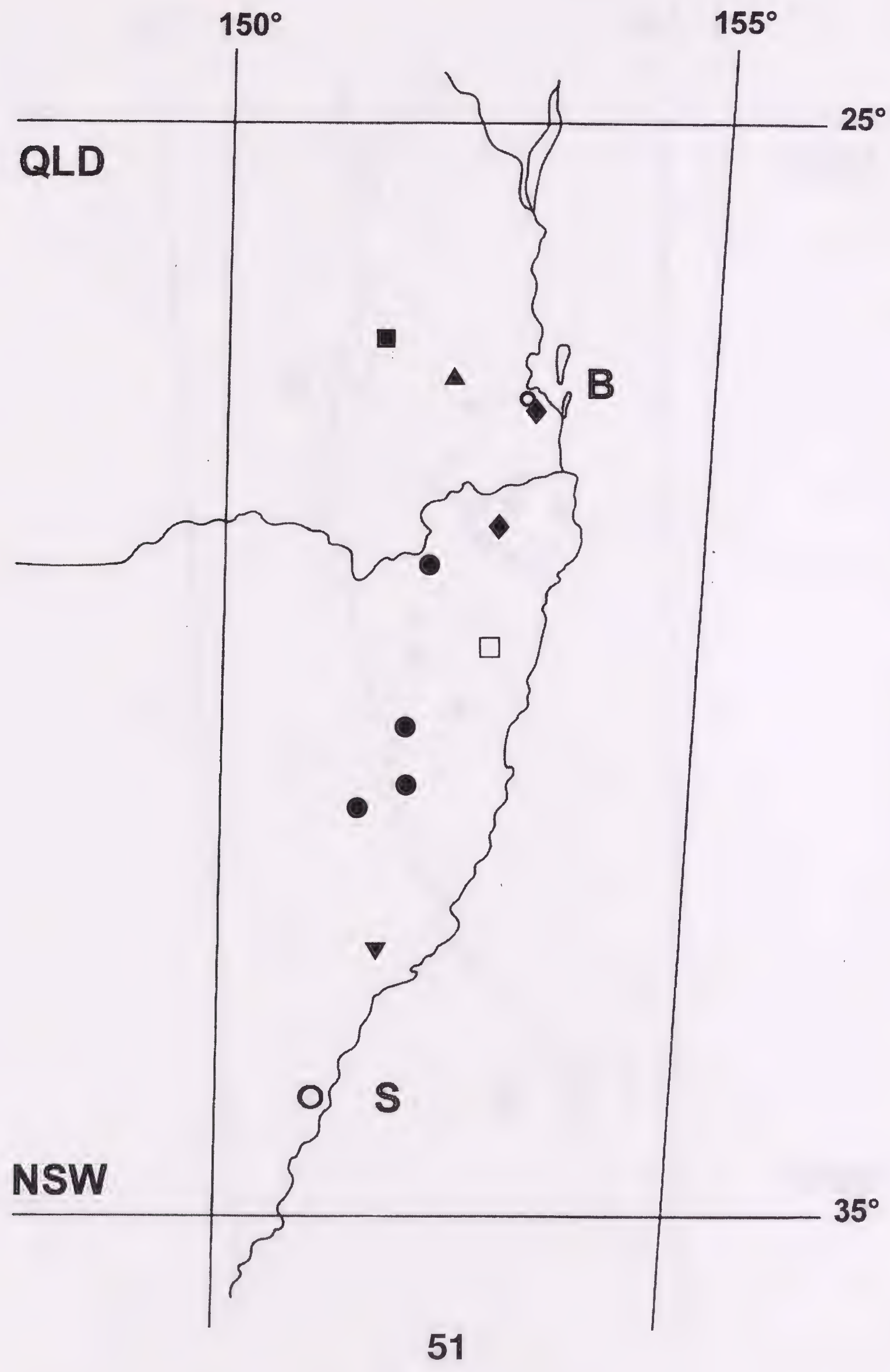


Fig. 51 - Distribution. *Meonis magnus* n. sp.: ●; *M. carteri* n. sp.: ▼; *M. ater ater* Castelnau: ◆; *M. ater bunyanus* n. ssp.: ■; doubtful locality: □; *M. ater longipennis* n. ssp.: ▲.

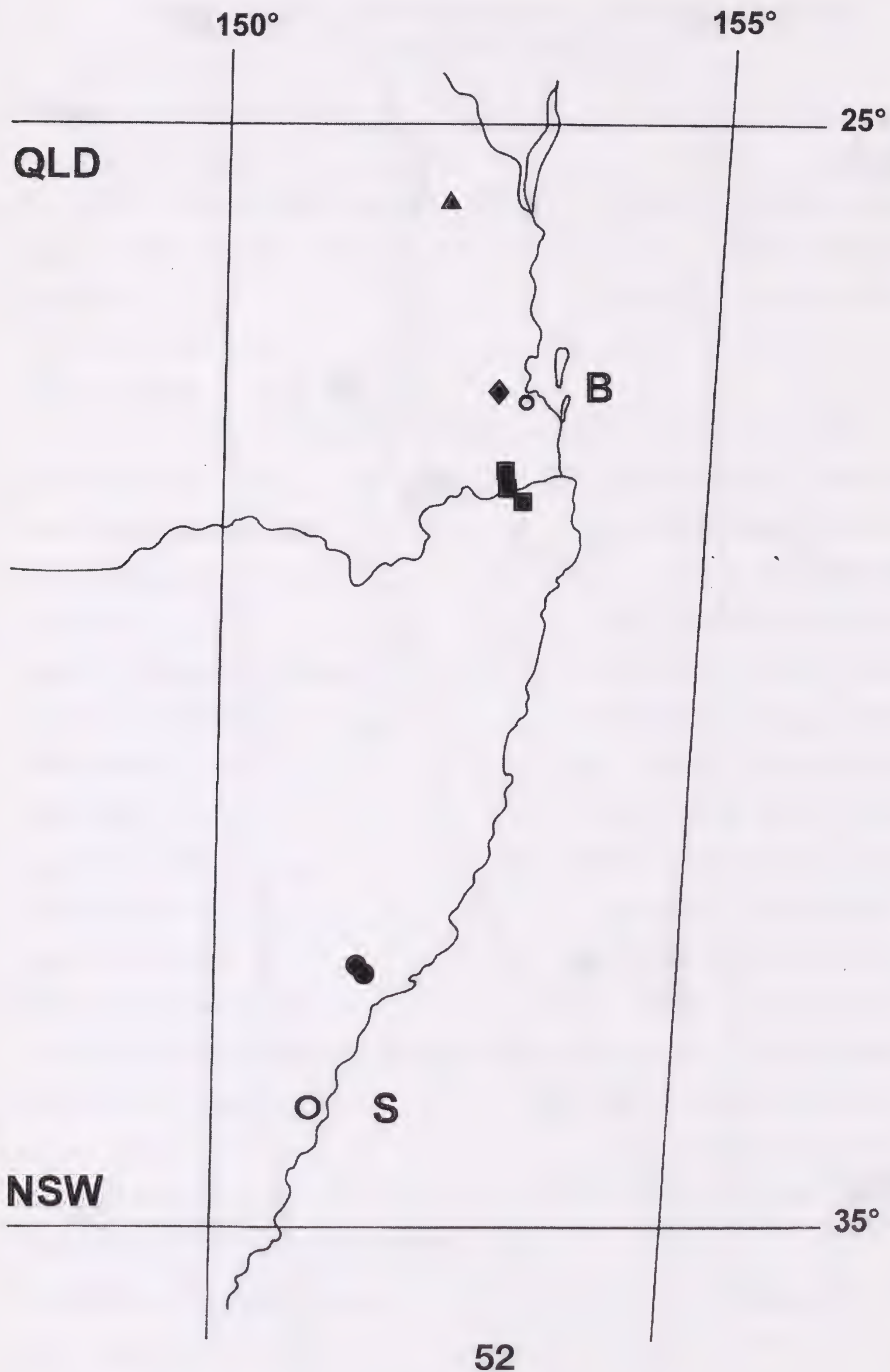


Fig. 52 - Distribution. *Meonis ater macleayi* n. ssp.: ▲; *M. ater gloriosus* n. ssp.: ◆; *M. amplicollis* Sloane: ■; *M. semistriatus* Sloane: ●.

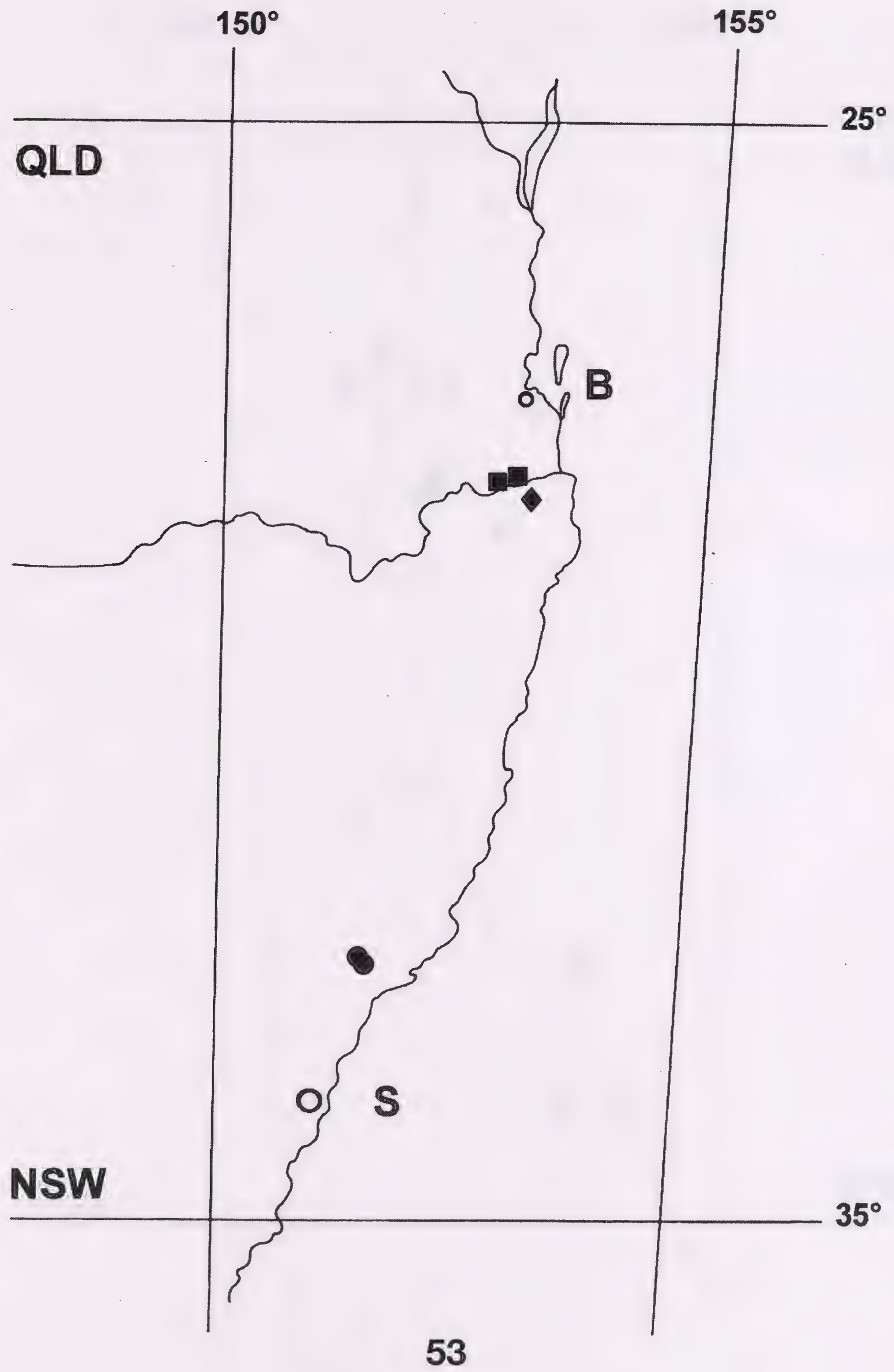


Fig. 53 - Distribution. *Meonis minor* Sloane: ●; *M. uncinatus uncinatus* n. sp.: ■; *M. uncinatus frater* n. ssp.: ◆.

APPENDIX. ALPHABETICAL LIST OF SPECIES
WITH DISTRIBUTION

Subgenus *Meonis* s. str.

- amplicollis* Sloane ne. NSW: Tweed River area; se. QLD: Lamington Plateau, Canungra
- angusticollis* Sloane ne. NSW: Dorrigo area
- angustior* n. sp. se. QLD: Toowoomba area
- ater ater* Castelnau ne. NSW: Clarence River area
- ater bunyanus* n. ssp.
. se. QLD: Bunya Mts., ? ne. NSW: Dorrigo area
- ater gloriosus* n. ssp. se. QLD: Mt. Glorious, Brisbane env.
- ater longipennis* n. ssp. se. QLD: Ravensbourne NP
- ater macleayi* n. ssp. se. QLD: Gayndah
- carteri* n. sp. ce. NSW: Gloucester area
- convexus convexus* Sloane. ce. NSW: central Blue Mts.
- convexus coricudgyi* n. ssp. ce. NSW: northern Blue Mts.
- cordicollis* n. sp. ne. NSW: Tweed River area
- interruptus* n. sp. ne. NSW: Glen Innes area
- magnus* n. sp. ne. NSW: Glen Innes, Tamworth
- minor* Sloane ce. NSW: Barrington Tops
- niger* Castelnau ne. NSW: Clarence River area
- quinesulcatus* n. sp. ne. NSW: Tweed River area;
. . se. QLD: Lamington Plateau, Border Range, Cunninghams Gap
- semistriatus* Sloane. ce. NSW: Barrington Tops
- styx* n. sp. ne. NSW: Styx River area
- subconvexus* n. sp. ne. NSW: Clarence River area

Subgenus *Meonidius* n. subgen.

- uncinatus uncinatus* n. sp. se. QLD: Lamington Plateau
- uncinatus frater* n. ssp. ne. NSW: Mt. Warning

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ABSTRACT

As a third part of revisions of the Australian species of the carabid subfamily Psydrinae the eastern Australian genus *Meonis* Castelnau is revised. The known species are partly redescribed and following new taxa are described: *angustior* n. sp.,

ater bunyanus n. ssp., *ater gloriosus* n. ssp., *ater longipennis* n. ssp., *ater macleayi* n. ssp., *carteri* n. sp., *convexus coricudgyi* n. ssp., *cordicollis* n. sp., *interruptus* n. sp., *magnus* n. sp., *quinesulcatus* n. sp., *styx* n. sp., *subconvexus* n. sp., *uncinatus* n. sp., *uncinatus frater* n. ssp.

M. amplicollis Sloane and *M. minor* Sloane are resurrected to separate species status from synonymy with *M. ater* Castelnau and *M. semistriatus* Sloane, respectively. A separate subgenus *Meonidius* n. subgen. is erected for the single species *M. uncinatus* n. sp. that differs from all other species in certain characters of external morphology, but even more in shape and structure of its male genitalia. Lectotypes are designated for *M. semistriatus* Sloane and *M. minor* Sloane. A key to all species is provided.

Like in the related northern genus *Raphetis* Moore the species of the southern genus *Meonis* are distributed in a mosaic of very limited ranges that mostly are restricted to a single wet forest capped mountain block or tableland. Thus, *Meonis* represents another example of the highly diverse fauna of flightless invertebrates that are aligned along montane eastern Australia like pearls on a string and that owe their taxonomic diversity to the repeated changes of climate and vegetation during the late glacial period.

RIASSUNTO

Revisione del genere australiano *Meonis* Castelnau, 1867 (Coleoptera, Carabidae, Psydrinae)

Come terzo contributo alla conoscenza delle specie australiane della sottofamiglia Psydrinae l'Autore presenta la revisione del genere *Meonis* Castelnau, presente in Australia orientale.

Le specie già note sono parzialmente ridescritte ed illustrate sulla base degli esemplari tipici, mentre sono descritti come nuovi i seguenti taxa: *angustior* n. sp., *ater bunyanus* n. ssp., *ater gloriosus* n. ssp., *ater longipennis* n. ssp., *ater macleayi* n. ssp., *carteri* n. sp., *convexus coricudgyi* n. ssp., *cordicollis* n. sp., *interruptus* n. sp., *magnus* n. sp., *quinesulcatus* n. sp., *styx* n. sp., *subconvexus* n. sp., *uncinatus* n. sp., *uncinatus frater* n. ssp.

M. amplicollis Sloane e *M. minor* Sloane sono reconsiderati specie valide e non più sinonimi rispettivamente di *M. ater* Castelnau e *M. semistriatus* Sloane. Viene istituito il nuovo sottogenere *Meonidius* per comprendere l'unica specie *M. uncinatus* n. sp., che si differenzia da tutte le altre per alcune caratteristiche morfologiche esterne, ma soprattutto per la forma e la struttura dei genitali maschili. Vengono inoltre designati i lectotipi di *M. semistriatus* Sloane e *M. minor* Sloane ed è presentata una tabella per l'identificazione di tutte le specie del genere.

Come accade per le entità del correlato genere settentrionale *Raphetis* Moore, le specie del genere meridionale *Meonis* sono distribuite in un mosaico di spazi molto limitati, che spesso sono ristretti ad un singolo altopiano o gruppo montuoso con la sommità coperta da foresta pluviale.

Quindi *Meonis* costituisce un altro esempio della fauna così differenziata di invertebrati atteri che sono allineati come un filo di perle lungo l'Australia montana orientale e che debbono la loro diversità tassonomica ai ripetuti cambi climatici e vegetazionali avvenuti nel corso dell'ultimo periodo glaciale.